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ORIGINAL COMMUNICATIONS.

THE HEART-CLOT.

To the Editors of the Examiner :

GENTLEMEN : I beg leave, through the columns of your useful periodical, to present the statement of certain opinions I have long entertained, relative to points in pathogeny connected with the occurrence of endo-cardial coagula ; and I do so, because I consider them deserving of serious consideration by the practitioner.

These opinions are connected with certain points of practice or treatment that are, in many cases, indispensably necessary for the safety of the sick ; and my sole desire in offering the communication, is founded on the hope that it may tend to prevent some disastrous events, which the want of a little reflection might allow.

I believe it is a fact, not to be controverted, that in an animal slowly bled to death, the first portions of blood extravasated, coagulate less readily than the last portions. If this doctrine is true, it follows that the coagulability of the blood left in the vessels after great hemorrhages is augmented : I have had several occasions to find that it is dangerously augmented.

To take one of the most ordinary cases of hemorrhage—I mean that occurring after labour, or in abortions—we have an instance in which, even after the arrest of the bleeding, the patient is exposed to mishap from the coagulability of the blood remaining in the vessels. Loss of blood produces a tendency to fainting, or lipothymia: during an attack of fainting, the motions of the heart are enfeebled, the diastole slow—torpid, for the blood moves languidly in both the venæ cavæ, pours itself out in a slow current into the auricle, which it sluggishly distends, and sometimes is then instantly converted into a solid clot. If a clot be formed in the right auricle, it will also be formed in the *iter ad ventriculum dextrum* filling up the cone of the tri-cuspid valve; and the nucleus of it will cause the coagulum at length to occupy the cavity of the right ventricle, and extend itself to a greater or less distance along the tractus of the pulmonary artery. If the whole pulmonic side of the heart should be perfectly occupied in this way, the death of the individual would be instantaneous; and I doubt not, that many of the examples of sudden death, after delivery in hemorrhagic labours, are produced by the formation of cardio-morphous coagula which form in the instant of a state of fainting, or lipothymia. It is understood, that the young Princess Charlotte, whose death at Clermont cast a mournful gloom over the whole British Empire, died within fifteen minutes after the birth of the princess, and that there was no very considerable hemorrhage, no laceration, nor other incident that might fitly explain the suddenness of her decease. Many women are known to perish in this manner. I have been the eye-witness of instances of the kind. I have also seen a very great number of persons, who appeared to me to be in danger of perishing in the same way, but who escaped a fate so deplorable. I am aware also of instances in which women, after considerable hemorrhagic losses, have been esteemed by their physicians to be what is called doing well, during a space of from one to seven days, but who afterwards becoming *instantly* extremely ill, have perished without remedy in from two to twenty days thereafter.

If a surgeon, desirous to reduce a luxated humerus, should attempt to do so, he might find the resistance of the muscular contraction so great as to prevent his success, and he would therefore probably resolve to take away the resistance of the muscular con-

traction, by bleeding his patient *ad deliquium*. The surgeon knows that the deliquium would take effect upon the loss of a much smaller quantity of blood if the patient should be placed upon his feet in a standing posture, than if he were to recline upon his bed in a low recumbency. He would bleed the man while in an erect position. This ordinary practice is conformable with the dictates of experience in all cases of fainting, for it is well known that an individual will faint more readily in a vertical than in a horizontal position; and the first idea that is obvious to any medical man in a case of fainting is this—that he shall cause the patient to be laid with the head very low, taking away for the time even the pillow. I have on many occasions, besides taking away the pillow, found myself under the necessity of elevating the foot of the bed by placing books or blocks under the lower bed-posts in order to favour the determination of blood to the encephalon; for I conceive that in all cases of fainting the brain has become oligæmic.

I may assert the opinion here, that fainting is oligæmia of the encephalon, and that a hyperæmia of the encephalic bulbs is the very converse of and absolutely incompatible with the state of swooning. To raise up a woman who has within the few days past lost a considerable quantity of blood is almost inevitably to bring on deliquium. Now, if the idea be just that hemorrhage renders the remaining blood more coagulable, then it follows, that to take the woman out of bed, or to let her sit up in bed, is to expose her to the hazard of forming a coagulum in the right auricle, which, by extension of the nucleus, may fill the ventricle, occupy the aperture of the tricuspid, and pass several inches upwards in the course of the pulmonary artery and its branches. Monthly nurses, and the ordinary attendants of the sick know nothing of these things, and they hesitate not, oft-times, to exhort or to permit the anæmical accouchée to rise and sit for a few moments for purposes that might be answered without quitting the horizontal position.

A lady was taken in labour in the afternoon. She sat in her arm-chair all night without sleeping: at five o'clock in the morning she placed herself upon the bed and the child was born in half an hour. The placenta was spontaneously and perfectly extruded, nothing being left in the womb: it was her fifth labour.

Within an hour she had hemorrhage—the vagina and uterus contained large coagula which were turned out by the physician, whereupon the hemorrhage ceased: she may have lost altogether some thirty ounces of blood. He remained near her for several hours. At mid-day, throughout the afternoon, and during the following night, she appeared to be perfectly well. At half-past nine the following morning the physician made his visit; she was without pain or the least indisposition, nor had she any symptoms, save those that appertain to the condition of a healthy accouchée. Her pulse was about 75 beats per minute; the respiration, temperature, and hue, satisfactory to the medical attendant; her complacency, physical and moral, was absolute.

The physician left her at 10 o'clock in the morning. Being summoned again, he reached her apartment at one, P. M., and found her in a state, which led him to suppose that she might be near dying. The pulse was 164 per minute, very feeble and thread-like; the hands were cold, and the respiration was performed apparently by the strong effort of her will only. The respiratory acts were performed with great violence, and without rhythm. Auscultation of the heart disclosed a feeble impulse, with great irregularity of the systolic action. She had lost no more blood beyond the ordinary lochial discharge; the vagina which was examined contained no coagulum.

When I came into the apartment at 3 o'clock, P. M., she supposed herself to be in a dying state and asked me if I thought she would live half an hour. It is difficult to conceive of a spectacle of more extreme physical distress than that presented by this dying lady. Every respiratory act was attended with violent pain referred to a place near the lower extremity of the sternum, as in angina pectoris. Palpation of the abdomen and questions relative thereto, showed nothing abnormal there. Upon retiring for consultation, I expressed to my medical brother the opinion that the pulmonary heart was filled with a coagulum or false polypus; the prognostic, therefore, was necessarily fatal.

She had been left at 10 o'clock in the morning with a pulse at 75, and in the course of the forenoon she had been taken up from her recumbent position, and allowed to sit upon the close-stool for the purpose of evacuating the bladder of urine, immediately after which she was ill, and the physician sent for.

I made this diagnostic upon these grounds, viz: I said, there

is no pathogenical principle that I know of that can explain the change of her pulse from 75 to 164, in so short a time, save that of a mechanical obstruction formed by a clot or tampon filling up the cavities of the heart. It is clear that there is no scarlatina, no variola, no fever of any kind—no attack of Asiatic cholera nor other malady, that is capable of making so soon, so great a change in the action of the heart as is here observed. The patient had hemorrhage yesterday, which has increased the coagulability of her blood; she was taken out of her recumbent position and placed upright in bed, whereupon she became suddenly ill in consequence of the coagulation of blood in her auricle, and there is no power that is able to remove this tampon from the cavity of her heart; it will destroy her as effectually as would a musket ball deposited in the ventricle.

The respiration in this case was carried on, at the time of my arrival, solely by the force of the voluntary power. There seemed to be no rythmical respiration whatever; when she ceased to breathe by her volition, her respiration appeared to be suspended altogether. As might be expected, these voluntary aspirations were not rythmical, but interrupted, uncertain, having long intervals. The blood that came up from the inferior cava and down from the upper cava, must have passed with great difficulty between the superficies of the clot, and the paries of the heart. It must have moved in small quantities only through the tricuspid, and when distending the pulmonary ventricle, that ventricle could contain but a small portion of fluid blood, being mainly occupied by the coagulum. A similar difficulty existed as to the efflux of the blood along the pulmonary artery, which was tamponed at the time with a cylindrical clot extending several inches along the vessel and its principal branches. Under these circumstances, the quantity of carboniferous blood entering the lungs by the pulmonary artery, for aeration, could be a small quantity only; hence the violent almost spasmodic protracted efforts to aspire the air of the atmosphere; efforts which, however great, must measurably fail of the purpose of abolishing the direful sense of pulmonary oppression, or respiratory distress, or to use a more concise term, asphyxiation. The quantity of blood in the lungs was too small to receive the endowment of oxygen which is requisite to preserve any individual from a feeling of suffocation;

and however thorough might have been the aeration of the small quantity that was there, however brilliant and florid may have been its arterial hue after being breathed upon, the quantity of oxygen imparted to it must necessarily be insufficient so to act upon the nervous mass, the neurine, as to hinder the conscious principle from perceiving the sense of asphyxiation. With a heart situated in this manner—with the utter impossibility of thoroughly oxygenating the sanguine mass, the innervation gradually fails—a failure which is manifested in the decadence and ultimate overthrow of the various functions. All the functions are but the expressions of the biotic force that is sent down by the encephalic bulbs and spinal cord to the distal points of the nerve-fibrils in the organs. Every acinus of a gland is alive solely by the nervous force which comes into it by the fibril that connects it with the nervous mass, to obey whose mandate is to live, while to fail of receiving it is command to die; the same is true of every part and particle of the histological constitution.

As the encephalic bulbs certainly cease to irradiate the organs when they themselves cease to receive through the oxygeniferous streams injected into them by the carotids and vertebals, the supplies of oxygen which alone enable them to evolve the life force, the nerve force, the *lebenskraft*, the biotic force—it follows, that the organs die in the same ratio as those bulbs fail and perish.

One is not surprised, therefore, upon observing that a person in good health, like this unfortunate lady, the right side of whose heart becomes suddenly, instantaneously tamponed by a coagulum, should fall a victim, and that speedily, not to the presence of the clot alone, but to disease developed in other parts, whose life is overthrown in consequence of the obstruction of the prime organ of the circulation. Only a few hours could pass with a large coagulum in the heart, before the pericardium would begin to be filled with serum, or the embarrassments in the pulmonary circulation seek in vain for relief, by pouring out a vast effusion of water into the cavities of the pleura; or the innervative force being withdrawn from the viscera contained within the abdomen, whose venous blood is prevented from flowing off through the pulmonary artery, there is set in motion in the peritoneal sac, a tide of effusion filling it up in the course of a few hours.

In all such cases as those of which I am speaking, the escape

of the blood from the venous side of the sanguine circle is retarded, with the effect of producing enormous engorgements of all those venous branches, which usually and readily allow their products to run off through the ascending and descending cavæ. Let the reader perpend for a moment the condition of that portion of the vascular system which receives aortic injections by the cæliac and the superior and inferior mesenteric arteries: let him reflect that the whole of this torrent, which is entirely expended upon the chylopoietic and alimentary organs, is first collected by the capillary radicles of the portal vein, then distributed again among the capillary termini of the hepatic porta, whence it is a second time collected to flow off by the hepatic veins. Now, if the auricle and ventricle are tamponed by an endocardial coagulum, this whole torrent is inevitably arrested, and the cavities become immediately engorged by the continued injections from the aorta, leaving no grounds of astonishment as to sudden or fatal derangement of the healthy states of the tissues that are developed by it.

The time required for extinguishing the life of the sufferer is a variable time; one relative to the magnitude and extent of the coagulation. I can imagine that in the case of the Princess Charlotte, already alluded to, a coagulum was formed which filled the heart so completely, as to put an end to its action within fifteen minutes after the birth of the princess. My patient above mentioned, lived forty-eight hours after the occurrence of the accident, during which time she suffered the most inexpressible respiratory distress. She filled her pericardium with serum, while her peritoneal cavity became also the subject of a great effusion. Upon examining the heart twenty-four hours after her decease, one might feel surprised that her life could be so long protracted, since the auricle, tricuspid, and ventricle were completely tamponed with a clot which was not an enthanasial clot, but consisted apparently of a firm, whitish-yellow mass of fibrine, out of which every particle of hæmatoglobulin had been washed away, or expressed. An enthanasial clot is, in my opinion, necessarily a red one; a pre-enthanasial one ought to be white.

A patient in this city was delivered early in the morning. Soon after the birth of the child and the delivery of the placenta, the physician descended to the breakfast room, having given strict

charge that the patient should preserve the recumbent position, and be kept quiet. While at his breakfast, cries from the top of the stairway called him, for "God's sake," to hasten to the assistance of the patient. In a moment he was at her bed-side, where he found her already dead, having fallen backwards across the bed with her legs hanging over its side. He was told that she had said to her nurse, "I wish to get up,"—"The Doctor says, madam, you must not get up, if you please." "But I must get up, I will get up." She threw her feet out of the bed, and rose up sitting upon its edge; her head reeled to and fro, and she fell back and expired. No examination was made of the dead body, but I ask the reader to explain the cause of this sudden death, otherwise than by the rationale that her heart ceased to beat because it became instantly filled with an immovable clot.

Man cannot die, save by the cessation of activity in the brain, or in the heart, or in the lungs: he lives within this triangle, and can only escape at one of its angles. He must die by the brain, or by the heart, or by the lungs. It is to the last degree improbable that this woman perished solely because her brain ceased to evolve; but if it did not *instantly* cease to evolve, it must have continued to be the cause of motion everywhere. If the heart, as I suppose, became instantly filled with congealed blood, so that it could no longer receive nor discharge any portion of that fluid, the nervous mass would cease to live as soon as it should have consumed all the oxygen contained within its capillary vessels at the moment of the arrest of the cardiac circulation. The patient died by the heart.

A lady was confined in a natural labour, giving birth to a healthy child, at term. She lost a considerable quantity of blood at the time of the extrusion of the placenta, which left her feeble and pale. Her physician directed her to be kept quiet. She had a good day, and following night. At the morning visit the physician found her comfortable, and her condition was satisfactory to him. Soon after he left her apartment she was seized with violent alarming illness, whereupon he was recalled, and was again present after the lapse of about an hour. Her pulse was extremely frequent, feeble, and small; it continued frequent until the moment of her death, which took place about the nineteenth or twentieth day. On the eighteenth day, I think, I saw the lady, and formed the opinion that she was perishing on account of a false polypus,

clot, or tampon in the heart, established there by the imprudent early uprising after a hemorrhage. After her death a great quantity of water was found in the cavity of the right pleura, while a firm white coagulum, entirely destitute of corpuscles, was detected in the right auricle, filling up very much the cone of the tricuspid, while the ventricular end of it seemed to be torn or threshed to pieces by the *cordæ tendineæ*, which during so many days, had been vainly occupied in the endeavour to demolish it. The filling up of the pleura with serum was a natural consequence of the condition of the respiratory organs, quite as much so, but not at all more so, than was the filling up of the peritoneum and pericardium in the former case, consequences of the arrest of the circulation in the cava and its branches.

Towards the end of the year 1848, a primipara gave birth to her first child. She was tall, very slender, and delicate; the placenta was not removed; she lost a good deal of blood. Between forty and fifty hours after the birth of the child, upon being called to her succor, I removed the placenta from the cervix uteri in which it was grasped and detained. I removed it with the index finger of my right hand. The stench of it was noisome to the last degree. The putrid odour of it remained upon my hand for twenty-four hours, notwithstanding every effort to remove it. The patient was pale, and her pulse somewhat frequent, presenting the usual characteristics of the anæmical pulse. On the following day she was comfortable; the milk was secreted, the lochia healthy, and she was doing well, though still very pale. On the seventh day, she was placed in a chair before the fire, sitting up: she immediately felt sick, was put to bed, and I being called in to see her, told her friends that she had formed a fatal coagulum in the heart. She lived about forty-eight hours after the accident; I did not examine her body. I leave the reader to judge whether my diagnostic was or was not probably correct. She had a pulse upwards of 160—the impulse of the heart feeble—the respiration disturbed—frequent.

On a great many occasions since I have been a practitioner of medicine, I have been called to see patients, who, after hemorrhagic labours, have disobeyed my injunctions as to horizontal rest, and who being prematurely lifted upright in bed, had fainted. I have not a doubt that among those of these persons in whom

I found the heart fluttering, irregular and feeble in its action on my arrival, incipient coagulation existed. I have thought as I entered the room of a patient, that her auricular blood had begun to thicken, but was driven out from the auricle before its thorough coagulation, in consequence of the startling effects of a dash of cold water upon the face, or of clapping the hands, or snatching the pillow from under the head and shoulders, allowing the head to fall so as to favour the restoration of its vascular tension or even hyperæmia, and thereby re-establishing the perfect and powerful extrication of its innervative force. The re-excitation of the innervative force of the brain would probably soon enable a heart so situated to discharge itself of the inchoate coagulum.

It is not needful that I should draw out this paper to any great length; nor that I should discuss the reasons why so many autopsies present the evidences of the endo-cardial clot of which I have spoken, without having excited in the mind of the attendant practitioner, the suspicion of its presence before the death of the patient. It appears to me, to be enough for the present occasion, to propound the question, Can a patient with a white clot in the auricle and ventricle recover? If such a clot be a small one, the pulmonary circulation, although checked, is not necessarily suspended, but the nucleus of such a clot, like the nucleus of an urinary calculus, tends constantly to increase in size, and hence a small coagulum, which strangely disturbs the action of the heart, may consist with a considerable protraction of the struggle against its fatal power over the circulation. The gradual augmentation of the volume of the clot, and its extension into the pulmonary artery and its branches must in every case lead to an inevitable dissolution. I have not the least confidence in the power of alkaline medicines to dissolve such coagula, nor do I admit that the dull white endo-cardial coagulum so often discovered is the result of a state of endo-carditis; but I rather attribute its occurrence to a temporary stasis or near approximation to stasis during a state of fainting in an exhausted patient. Its occurrence after hemorrhagic labours, or upon the almost total suspension of the circulation at the cessation of an attack of puerperal eclampsia ought not to excite surprise. If a coagulum should fill the auricle and the tricuspid valve completely and at once, the death would be almost instantaneous and the clot would be found red. If the pro-

cess of its formation should be long protracted it would be dull white.

I did not design in this paper, to speak at all of the entanasial coagulum; it is perhaps quite normal that some portions of the blood last reaching the heart, at the moment of death, should congeal there.

In regard to the diagnosis of cases in which the endo-cardial coagulum becomes suddenly constituted, as in the examples of which I have spoken, it appears to me that the medical observer, in order to make it, must resort to a method which is only to be fitly characterized as transcendental diagnosis. It is true that the feeble impulse and almost complete suspension of the sounds of the heart, might serve as a quasi physical diagnosis of however little value.

By transcendental diagnosis I mean one made by a process of the mind, fitter to be called sentiment or conviction, than a regular ratiocinative progress.

To enter an apartment one has quitted only half an hour before, and to find a patient hopelessly ill with signs of imminent death, yet who had no serious symptoms of illness before—to find her making desperate voluntary efforts to breathe, without any signs of laryngeal or phrenic or pulmonic inflammation or accident—to see the face pale and ghastly—to observe her conscious sense of impending asphyxiation from loss of oxygen—without the leaden or iodic hue of a general cyanosis—These are the grounds of a diagnosis which may be called transcendental, one in which the consciousness of the physician informs him that a mechanical obstruction within the heart exists, and that such an obstruction alone can give rise to the phenomena.

In all the lingering or sudden progressions of the accidental disorders supervening in endo-cardial coagulum, no purely cyanotic manifestations have met my observation.

Writers on cyanosis mostly refer the cyanotic symptoms to the backing of the carboniferous blood of the veins into the capillaries. You, Messrs. Editors, are aware that I have maintained the opinion that cyanosis is, in its essence, not blueness of the surface, but a state of the nervous mass produced by the absence of oxygen in the brain-capillaries.

The writers, and among them, perhaps in chief, Professor Rokitansky in his *Pathologische Anatomie*, contend that cyanosis depends most commonly upon constriction of the orifices of the great vessels of the heart, preventing the venous blood from escaping from the cavæ by the routes of the heart. Now, I aver that no obstructions existing in the vessels of the heart can be more complete than that depending upon a large endo-cardial clot, or tampon; and yet I venture to say that under circumstances of such kind the victim perishes without manifesting the peculiar livor or cyanotic tinge which characterizes the forms of the malady, that are connected with open foramen ovale and imperfect action of Botalli's valve. It is my clear conviction, that as long as the respiration can be carried on in endo-cardial clot, the blood, however small in quantity that reaches the lung passing along the superficies of the clot, is highly charged with oxygen. While, therefore, oxygeniferous blood continues to reach the brain, the patient, though conscious of the want of oxygen in due quantity, is in a state different from that of one who injects only carboniferous or venous blood into the neurine of the encephalon.

My intention was to speak only of the white clot, the false polypus, to show the probability of its being formed under circumstances of deliquium, in the oligæmia that follows uterine hemorrhage; and thereupon show how dutiful a thing it is on the part of the attendant physician, to issue the clearest and most precise orders as to the guidance of the hemorrhagic accouchée. I believe that a woman who has lost a very great quantity of blood, and who is prematurely taken out of her recumbent decubitus, and placed upright upon the close-stool; whether in bed or not, incurs a most dangerous risk of a miserable and premature death, from the sudden formation of a heart-clot.

I am gentlemen

Your ob't servant,

CHARLES D. MEIGS.

Union of a wound in the Intestine, returned without suture. By
B. J. PENNOCK, M.D. Communicated by W. H. TINGLEY, M.D.

The subject of this communication was a man of temperate and frugal habits, aged 35 years. On a day in July last, a negro in a state of intoxication, came to his house, and conducted himself in so violent a manner as seriously to intimidate the female members of his family. The man having given proper warning, proceeded to enforce his rights; as he raised a billet of wood to strike the negro, the latter fell on one knee, drew from his pocket a clasp knife, and thrust it into the abdomen of the unfortunate man.

W. H. T.

“The wound in the abdomen was three inches in length, commencing in the *linea alba* three inches below the umbilicus, and extending to the right obliquely upwards and outwards; about four feet of small intestine (the ileum) with its mesentery protruded through the wound. There was much gaseous distension of the bowels, excepting, in one place, where there was a transverse wound, three-fourths of an inch in length, through which protruded a lumbricoid worm. The protruded parts were firmly grasped by the lips of the wound, causing much pain and sickness, with frequent attempts to vomit; each effort forcing out additional portions of the intestine, with considerable quantities of blood. The ‘shock’ was so great, and the symptoms so severe, as to induce the belief that the man would not long survive, and hence the bowel was returned without suture. Twice was I foiled in my efforts to return it, in consequence of the efforts to vomit forcing it out with much violence. The next day there was pain, tenderness, hardness and swelling of the belly. This condition, somewhat augmented, continued throughout the subsequent stages of the case, though not with such violence as to proclaim the most intense form of peritoneal inflammation. The fact is, the man never completely rallied from the ‘shock,’ but continued sick, and vomited many times daily until his death. Probably this prevented the violent reaction which otherwise might have been anticipated. We tried blood-letting in the early stages of the case, but found the loss of a few ounces produced so much prostration and sinking of the pulse, that we were obliged to discontinue it. After this,

purgative and anodyne enemata, and blisters constituted the treatment. I may here remark, as evidence of the violence sustained by the brain and nervous system, that in two or three days the patient's mind bore traces of aberration, which increased to constant delirium before his decease. On the third day the colon was emptied by a mild enema; and on the fifth day, there was a copious bilious discharge, which, of course, had passed the wounded part of the bowel. The bowels were easily moved at all times, by injections, and the urinary discharge was so copious as to lead to the prediction that there could be no serious effusion in the abdominal cavity, which proved to be correct. He died on the eleventh day after the reception of the wound."

"*Post-mortem*.—We had much difficulty in opening the abdomen, because of the extensive adhesions of the viscera to its walls. The convolutions of the intestines were firmly agglutinated together, as also were the folds of the mesentery. The omentum *majus* was strongly adherent to the abdominal parietes, and contained in a sac formed by its adhesions with the bowels; on separating the surfaces, we found in several places, small sacs containing purulent matter. The *cæcum* and *ascending colon* seemed imbedded in adhesions to the neighbouring parts, and were very tender, though not much discoloured. The *transverse* and *descending colon* shared in the adhesions, although they were not so dense as at its initial portion. There was no inflammation of the peritoneal covering of the stomach and liver. There was no coating of coagulable lymph, excepting in one or two spots; neither was there much injection of the peritoneum. I was very careful in the dissection not to injure the intestines, as to allow their contents to escape, and I was successful. There were no traces of *fecal extravasation* discovered on the most careful examination; and what much surprises us, we could not, after a tedious search, discover such appearances as satisfied us that we had found the situation of the wound in the bowel, notwithstanding we took out and examined every part of the small intestines, internally and externally; from this fact we might suppose that the colon was the injured organ; but in the bowel, which protruded at the site of the wound, there were no longitudinal or transverse bands which anatomically designate this organ. The lumbricoid worm was not mistaken for the *vermiform appendix*, for I removed the former at the time of the injury.

About five ounces of blood, partly coagulated, were found in the pelvis, the presence of which, during life, was not indicated by "fluctuation," "percussion," constipation of the bowels, or suppression of urine; it probably came from a branch of the epigastric artery."

Case of Vesico-vaginal Fistula. Relieved by the ordinary hare-lip operation. BY HENRY H. SMITH, M. D., Philada.

Bridget Mc—, æt. 28 years, was taken in labour about 1 A. M. of September 18th, 1847. The labour ceasing, and the head being locked, her medical attendant applied the forceps at 2 A. M. of 19th, and delivered a large still-born child.

For several hours after delivery, the catheter was used; but on the 21st, the urine began to escape freely through the vagina. She now soon became excoriated; her water wet every thing about her; ran into her shoes; wet the floor wherever she stood, the bed, &c., &c., and rendered her situation most distressing.

On December 28th, 1847, she presented herself to me for relief from the chafing, &c.

On examining the parts I found considerable inflammation of the vulva, perineum, anus and thighs, and a free and constant discharge of urine from the vagina; none passing through the urethra. The finger, on being introduced into the vagina passed directly up into the bladder, which was contracted so as scarcely to hold a walnut, whilst a catheter in the urethra could be passed backwards only about one inch, before it came out into the vagina. There was, therefore, no difficulty in recognizing the existence of a vesico-vaginal fistula, accompanied with a considerable loss of substance.

Subsequent examination with the speculum uteri showed the opening to be about the size of a Spanish quarter dollar piece; that it existed at the neck of the bladder, extending backwards towards the orifices of the ureters, and forwards to within one inch of the external opening of the urethra, and that it occupied very nearly the position of the vesical triangle.

The anterior half of the opening was rounded, thick and callous, but the posterior was much thinner and covered by the mucous

membrane of the bladder, a small fold of which forming a vascular roll, projected into the vagina.

The anterior lip and neck of the uterus were adherent to the front of the vagina, close to the edge of the fistula. After applying soothing remedies, and overcoming the external irritation, it was determined to try an operation, although its success seemed very doubtful.

Accordingly, after freely dilating the urethra by the use of large bougies, I proceeded, January 17th, 1848, at the suggestion of Dr. Wm. E. Horner, to operate as follows: The woman being placed with her hands and feet tied in the ordinary position for lithotomy, was brought to the edge of the bed before a strong light, and held in that position by Drs. Taliaferro, of Va., and Benton, of N. Y. A half speculum, open on the top, was next placed in the vagina, and one of Lisfranc's long double hooks inserted into the posterior part of the neck of the uterus, (as advised by Jobert,) so as to draw it fairly down to within about two inches of the os externum, thus diminishing the size of the fistulous opening by relaxing the vagina.

A piece of soft pine wood about the size of the fore finger, convex on one side and flattened on the other, was then passed into the urethra, with its flat side next to the vagina, and carried back into the bladder, so as to depress the edge of the fistula. Upon this, I cut off the posterior lip of the opening, partly by a vertical bladed knife made for the occasion, and resembling somewhat an ordinary hoe, and partly by a long bladed scalpel. By elevating the handle of the stick in the urethra, the anterior lip of the fistula was also readily depressed and its edges pared off, the paring being freely continued into the angles of the fistula. Four long hare-lip pins, slightly bent, and fastened into an acupuncture needle holder, were now passed one after the other, through the anterior lip of the fistula from below upwards, and then through the posterior lip from above downwards, a part of the pin being of course in the urethra. Four figure of 8 ligatures thrown around the pins, now closed the fistulous opening so perfectly that a fine probe could not be made to pass it, except at a spot between the two central pins, where the strain was evidently greatest. A catheter introduced into the bladder prevented, however, any

escape of urine through the wound, and the vagina being filled with charpie, and the patient kept on her abdomen, the proper course of the urine was soon restored, it continuing to flow entirely by the catheter and not through the vagina.

Slight fever in the evening.

January 8th.—Very comfortable—urine escapes clear through the instrument.

14th.—Removed the pins cautiously, but noticed a slight escape of urine per vaginam—replaced catheter by a fresh one.

20th.—Examined with the speculum and found union at the angles and well on to the centre pin, where it was deficient—the opening is, however, diminished at least two-thirds—touched with nitrate of silver and continued catheter.

27th.—Obliged to remove catheter on account of irritation; the patient can now hold near a tumbler of urine—especially when on her abdomen. By continued use of the caustic the fistula diminished rapidly, until not larger than the end of the little finger, but at this time she suddenly left town and I lost sight of her.

January 27th, 1849.—I again heard of my patient through the friend who nursed her during the operation, and learned “that she is not troubled in the least with her water, and is again living with her beau.”

Owing to the great loss of substance, the approximation of the sides of the fistula would have been impossible, except by the aid of the hare-lip suture.

MEDICAL NOTES. By an Assistant Surgeon, U. S. Navy.

[Reported for the Medical Examiner.]

The medical visitor to Brazil cannot fail to remark the large number of persons that are affected with enlargement of the scrotum. Excessive hypertrophy of that part may constantly be met with, forming a mass distressing by its weight and position. It may be found weighing many pounds, reaching below the knees, obstructing locomotion, and requiring artificial supports of various

kinds. In one individual in the city of Rio de Janeiro it was known to have reached such a size as to have required to be carried in a sort of barrow in advance of the body.

The disease appears to be confined to the scrotum and consists in an hypertrophy of its tissues. The testicles are not involved, but are found of normal appearance in the upper portion of the mass. Hydrocele is however frequently co-existent. The nature of the affection is variously regarded by the native physicians: many think it of imported origin, caused by intercourse with African negroes labouring under the "yaws;" others that it arises from offensive habits, and want of cleanliness amongst the natives.

It would appear in fact to be an endemic disease, due to some peculiarity of the soil and climate, and allied to chronic erysipelatous inflammation "of *periodic* type." Persons of correct moral habits are often found the subjects of the disease, and a variety of it is met with among females of the upper class in whom the labia and adjoining parts are the seat of the hypertrophied condition. It is not improbable that the disease may be of malarious origin, having a well marked paroxysmal character. An attack is most generally ushered in by symptoms resembling those of intermittent fever. There is the preceding mal-aise, a well marked chill, and hot stage, and the crisis of the paroxysm is marked by an augmentation of the tissue of the scrotum, and the patient is at the same time relieved of all feelings of indisposition. New and repeated attacks take place at various intervals, and with successive deposits.

The scrotum finally loses its rugose appearance, the integuments of the penis are called upon to support and invest the tumour, that organ itself disappearing in the mass, its position being indicated only by its urethral orifice.

The disease has been variously treated: extirpation, and removal by the knife, have been resorted to, but the practitioners of the country have much hesitation in operating, as the practice cannot be said to be generally successful. In all cases the existence of hydrocele should be ascertained, and the treatment should commence by the removal of the fluid, great relief to the integuments being afforded in the diminution of the bulk of the mass; the relaxa-

tion of the tissue can also be promoted by steaming the part, and by local depletion by leeches, scarifying, &c.

Simple, medicated, and vapour baths, by their soothing and cleansing influence, and blisters and setons by acting as local drains, are of great service. The system at the same time should be maintained in a healthy tone, attention being directed to the state of the secretions and activity of the emunctories, whose agency is of peculiar value in the removal of abnormal deposits. Constitutional and alterative remedies, iodine and its salts, sulphur and the antimonials, the infusion, decoction and local application of indigenous plants supposed to have a specific effect on the surface, enter into the treatment.

The arsenical preparations are those which are found to have most influence in arresting and removing the disease, and their efficacy may be as much ascribed to their *anti-periodic power* as to their alterative action; quinine, which in the same view would appear to be indicated, has not been used in this affection; its employment, however, has been suggested, and if found successful would assist in determining the pathology.

The disease in the majority of cases has been found to resist all treatment.

In females, the labia and adjoining hypertrophied integuments have been removed with success.

PENNSYLVANIA HOSPITAL.—*Surgical Wards.*—*Service of*
DR. NORRIS.

Cases admitted since January 15th, 1849.

Abscess 1, Burns 2, Chilblains 2, Concussion (brain) 1, Fractures, simple, 12; viz.: Nose 1, Lower Maxilla 1, Humerus 2, Forearm 2, Femur 2, Patella 1, Leg 3; Compound 4; viz.: Fingers 1, Forearm 1, Leg 2; Gonorrhœa 1, Hemorrhoids 1, Hernia 1, Hydrocele 1, Inflamed hand 1, Inflamed leg 1, Necrosis (femur) 1, Ophthalmia (purulent) 1, Onychia 1, Orchitis 2, Paronychia 1, Retention of Urine 1, Syphilis 7, Stricture of Urethra 1, Ulcer 6, Wounds 18; viz.: Contused 8, Incised 3, Lacerated 2, Punctured 2, Gun shot 3.

Discharged since Jan. 15th, 1849.

	Cured.	Relieved.	By request.	Died.
Abscess, - - - - -	2	0	0	1
Burn, - - - - -	0	0	0	1
Fractures, simple, viz. : Thigh 2, Leg 3, Fore-arm 1, Arm 1, - - -	7	0	0	0
Fractures, compound, viz. : Upper Max- illa 1, Fingers 1, Leg* 1, Hand† 1, 4	0	1	0	0
Gonorrhœa, - - - - -	1	0	1	0
Hernia, - - - - -	0	1	0	0
Hydrocele, - - - - -	0	1	0	0
Inflamed hand, - - - - -	3	0	0	0
" arm, - - - - -	1	0	0	0
" knee-joint,‡ - - - - -	0	0	0	1
Luxation, - - - - -	1	0	0	0
Necrosis, - - - - -	0	0	1	0
Orchitis, - - - - -	1	0	0	0
Paronychia, - - - - -	2	0	0	0
Polypus of nose, - - - - -	0	1	0	0
Syphilis, - - - - -	9	0	0	0
Sprain, - - - - -	1	0	0	0
Ulcer, - - - - -	5	0	2	0
Wounds 16, viz. :				
Contused, - - - - -	8	0	0	0
Lacerated, - - - - -	0	0	0	1
Punctured, - - - - -	3	0	0	0
Incised, - - - - -	1	0	1	0
Gunshot, - - - - -	2	0	0	0
	51	3	5	4

The fatal case under the head of Abscess was an excellent example of the purulent or suppurative diathesis. The man was about 30 years of age, by trade a tailor, and up to this time healthy. His parents, as well as his brothers and sisters, have good constitutions. He had been in the habit of drinking, and sometimes to excess. He had syphilis about five years before. He was originally admitted into the Medical Ward for erythema. His whole body, face and limbs, were covered with a pale blush, resembling subacute erysipelas, and his right foot was inflamed and swollen. He stated that he had hurt his foot about ten days before admission, but had continued at his work till within two or three days, when the erythema appearing he applied to the hospital. The constitutional disturbance was great. His pulse over 100 and feeble;

* Cured by amputation, double flap operation of forearm.

† Cured by amputation, circular incision of thigh.

‡ A young man of marked scrofulous diathesis. Inflammation went rapidly on to suppuration and ulceration, with such severe constitutional disturbance as to put amputation out of the question.

his tongue coated, &c. The erythema disappeared in a day or two, but his foot became worse, and soon showed signs of suppuration. The pus was discharged first from an ulcerated opening between the fourth and fifth toes, and afterwards counter-openings were made at different points on the back and sole of his foot; very soon a large abscess was discovered on the right side, extending from near the lower point of the scapula to the sternum. This was opened, and five or six ounces of healthy pus discharged. From this time abscesses appeared successively at different parts of his body and limbs. They were of different sizes, and were preceded by no inflammatory redness, pain or tenderness on pressure. The collections were nearly all encysted, and after being punctured the sacs contracted and the discharge ceased. In some, however, there was no disposition in the sac to contract, and the discharge continued thin, dark, and very offensive. Towards the close of his illness the abscesses formed in greater number and with greater rapidity; so that at his death no fewer than eighteen purulent collections were observed on the surface of his body. He was sustained by the most stimulating and nourishing articles, but the discharge and great constitutional irritation gradually wore him out.

The autopsy was made 13 hours after death. Emaciation very great; rigidity incomplete; eighteen abscesses were observed on the surface of the body, and two were found on the inner face of the sheath of the rectus abdominis muscle. Thorax, recent adhesions on each side. Lungs pale in front, violet-coloured posteriorly. On cutting into the right lung numerous points of pus not contained in any cavity were observed. On the anterior face of the left lung, hard points of a dark colour were felt under the pleura, which, when cut into, were found to be minute cavities enclosing pus. Posteriorly the lung was infiltrated throughout with pus. Liver enormously enlarged, of a pale yellow colour. Spleen, good consistence, light colour, medium size; no purulent deposits were found either in liver or spleen. Kidneys, medium size, pale, containing in tubular portions numerous small collections of pus. Stomach and small intestines healthy.

The death from lacerated wound of the finger illustrates the fatal results which sometimes follow slight injuries. Owen Nevins, aged 48, applied for admission Jan. 13th, 1849, with a lacerated wound of the little finger of the right hand, caused by its being

caught between two barrels. He was put to bed, the hand and arm elevated on a splint and cold dressings applied. Inflammation, attended by a great deal of œdema, but with little heat or redness, extended up the hand and arm, and the wound presented a sloughy appearance. Suppuration was first detected on the back of the hand, and a free opening was made to discharge the pus. Counter-openings were made in the palm and afterwards in the arm. In the meantime his general symptoms became very threatening; his pulse was feeble and frequent, his tongue dry and brown, and although tonics and stimuli were freely given, his condition was not improved. The punctures made to evacuate the pus ulcerated, and sloughing of the cellular tissue took place. Shortly after he had three attacks of arterial hemorrhage from the ulcerated openings in the arm, in each of which he lost a considerable amount of blood. It was deemed improper to amputate in his enfeebled condition. He gradually sank and died, Feb. 3d, 1849.

Upon examination after death, all the organs were found pale, but healthy, with the exception of the spleen. The spleen was enlarged, softened down to a reddish pulp, and contained numerous deposits of pus. Throughout the abdomen there were traces of old peritoneal inflammation, the small intestines bound together, and the peritoneum opaque and thickened.

SPENSER SERGEANT, M. D.,
Resident Physician.

Pennsylvania Hospital, Jan. 16th, 1849.

BIBLIOGRAPHICAL NOTICES.

The Elements of Materia Medica and Therapeutics. By JONATHAN PEREIRA, M. D., F. R. S. and L. S., Fellow of the Royal College of Physicians in London; Vice President of the Royal Medical and Chirurgical Society, &c. &c. *Third Edition, enlarged and improved, including notices of most of the medicinal substances in use in the civilized world, and forming an Encyclopædia of Materia Medica.* Vol. 1. 8vo. pp. 897. London: 1849.

A new edition of this excellent work has been announced in the English periodicals for many months; and we have now the first volume. To appreciate the difference between it and its pro-

tototype of the former edition, let us see what its distinguished author says in the Preface in regard to the whole work:

"The author has endeavoured to render this work more worthy of the marks of approbation bestowed on former editions. Several portions of it have been entirely re-written, some have been curtailed, others enlarged, and every part has been carefully corrected, and, it is believed, much improved. Numerous recent discoveries in natural history, chemistry, physiology, and practical medicine, relating to the *materia medica*, have been embodied in this edition, which the author ventures to hope will be found to contain a faithful outline of the present state of pharmacological knowledge. Notices of many of the less frequently employed medicinal substances have also been added, so that the work now embraces an account of the chief medicinal agents used in the civilized world, and may be said to form an *Encyclopædia of Materia Medica*." p. vi.

Of such a designation it is, indeed, eminently worthy; for although not entirely *à portée* with the existing condition of the results derived from experience with all remedial agents everywhere, it is markedly cosmopolitan in its scope; and the author's knowledge of the German enables him to make frequent references, which would have escaped one not similarly endowed.

Dr. Pereira's "Elements"—"System" would have been a more appropriate designation—has been regarded everywhere as a rich mine of valuable information appertaining to the topics on which it treats. Its therapeutical portion is, however, less imposing than its accuracy in every thing regarding the history and properties of the various articles of the *materia medica*, especially in their pharmacognostic relations. In these respects it is more full perhaps than the excellent dispensatories of Wood and Bache, and of Christison, so well known to, and so highly appreciated by our readers, whilst it necessarily exceeds them in the amount of information connected with general therapeutics. Much additional matter has been added, and not a little on the special application of the particular articles to therapeutics, so that it has been necessary not only to increase the amount of type on each page, but to add materially to the number of pages.

As a work for the library of every medical practitioner and student it appears to us to be essentially demanded;—as one to be taken up and perused continuously by the latter, it is by no means as well adapted. In this respect, however, it but resembles encyclopædic works in general. It is eminently fitted for the shelf as an

authoritative and unerring pharmacological guide: it is not so well fitted for the table of the young student, especially of one who is following the courses of Therapeutics and Materia Medica as taught in the schools. In this relation it has all the virtues and defects of the dispensatories. Our attention has been greatly directed to the treatises on Therapeutics and Materia Medica of various countries; and we have been struck with the differences amongst them in scope and execution,—amongst those that have appeared within the last few years more especially. With the English, the main design appears to have been to furnish exact accounts of the history, preparation, properties, characteristics, composition, physiological effects, and therapeutical uses of the various articles. Generally, however, more attention has been paid to the four first objects than to the two last. The work before us is, however, more equable in all respects; whilst those of Ballard and Garrod, and Royle, give so much preponderance to the former objects, that they are scarcely adapted as text books or accompaniments to lectures on materia medica, certainly in most, if not all, of our medical schools.

The French and German works, on the other hand, give more attention to the therapeutical than to the pharmaceutical relations of medicines. Such is eminently the case with that of MM. Trousseau and Pidoux—the most important that has appeared on the subject, of late years, in France; and the same remark applies, although less forcibly, to the recent productions of Mitscherlich, Oesterlen and Plagge, now before us. Aschenbrenner's small volume, which we have recently received, entitled "*Die neuern Arzneimittel und Arzneibereitungsformen*" u. s. w., Erlangen, 1848, ("New remedies and their forms of preparation," &c,) quoted by Dr. Pereira, is little more than a skeleton, although containing, in epitome, a large amount of valuable material to one who is editing a dispensatory or collection of "New Remedies."

Taking the American works on the same subject, we find a greater proportionate attention paid to the therapeutical relations of medicine by them than by the English, and hence, most of them—as those of Chapman, Eberle, Dunglison and Harrison (of Cincinnati)—adopt a physiological classification, to which they adhere in the description of individual articles of the materia medica.

As text books, then, to courses of lectures on Therapeutics and Materia Medica, as delivered in most of our colleges, the French,

German and American treatises are better adapted than those of England. We allude especially to treatises of modern production—within the last few years, that is. We have never been of opinion, that encyclopediac works, like the one before us, or dispensatories—no matter how valuable they may be in their legitimate sphere—are good accompaniments as class books. It is rare for us to meet with any youth, prior to his admission into the office of his preceptor, who has much, if any, knowledge of botany or of zoology; and therefore, to the mass, it would be almost as profitable to read or attempt to read Chaldaic as the botanical or zoological portions of the pharmacological works, which are apt to be placed in the hands of the tyro at the very threshold. What better mode of impressing him with distaste for the whole affair than to make either of the great dispensatories, or the encyclopediac work before us, his “first book” of medicine, and require him to study or even to peruse it? He meets with botanical and zoological, not to say chemical descriptions, of which he knows nothing; and if—as we admit—there is an ample amount of intelligible matter, if properly culled for him, in any of these works, who is to make the selection? Certainly not—in many cases—the preceptor, who is too often as uninformed as the student. It has always appeared to us, that works, which give the due amount of information for the practising physician, without attempting to exhaust the subject, are best adapted for the use of one preparing for the practice of his profession; whilst the more elaborate treatises, that regard the articles of the *materia medica* in their congenerous relations also, are better fitted for one who desires, after his purely medical education has been completed, to prosecute the subject still farther. In all these observations, however, we have relation to the system of instruction as pursued in the different medical schools of this country. Nothing would delight us more than to see a competent knowledge of botany and zoology required of every medical student, as a branch of preliminary or simultaneous study; but it is not probable that so desirable a change in established usages will be speedily effected; nor, indeed, does it seem to us to be very practicable.

In the present edition of his work, Dr. Pereira has “attempted”—to use his own modest expression—a new physiological classification of the articles composing the *materia medica*—“with

what success"—he adds—"the author leaves others to judge. He would remind those who may disapprove of it, of the insuperable" [the epithet is too strong] "difficulties which stand in the way of a satisfactory and unobjectionable classification of medicines on a physiological basis; and he would say to the critic, in the language of Horace,

‘Si quid novisti rectius istis,
Candidus imperti, si non, his utere mecum.’ ”

Deeply impressed with the difficulties to which Dr. Pereira refers, we are disposed to be charitable with every fresh attempt made in the right direction. Dr. Pereira's has the merit of systematically arranging the most important agents, although doubts may exist as to the propriety of positions which he has assigned to individual articles; and still more as to the necessity of many of the subordinate heads, which he has introduced. But we extract it, in order that our readers may judge for themselves :

“ Class I. Topical remedies acting mechanically.	{ Mechanical antidotes, Mechanical purgatives and anthelmintics, Dentifrices.
Class II. Topical remedies acting chemically.	{ Caustics. Astringents. Chemical antidotes. Disinfectants.
Class III. Topical remedies acting dynamically.	{ Acrids. Emollients. Diluents. Inspissants.
{ a. Physically.	{ Spanæmics or impoverishers of the blood.
{	{ a. Thirst quenching and refrigerant.
{	{ β. Resolvents or liquefacients.
{	{ 1. Alkalines.
{	{ 2. Salines.
{	{ 3. Iodics and bromics.
{	{ 4 Sulphurosa
{	{ 5. Mercurialia et antimonia- alia.
{	{ γ. Antispasmodic.
{	{ δ. Plumbeous or saturnine.
{	{ Hæmatinics or enrichers of the blood.
{ γ. Dynamically.	
Class IV. Hæmatics or remedies acting on the blood.	

Class V. Pneumatics or remedies acting on the organs of respiration.

Affecting the muscles of respiration.
Affecting the ærian membrane.
Diminishing the want of breath.
Influencing the calorific functions
Refrigerants.

1. Affecting the mind ; phrenics.
2. Affecting sensibility ; æsthetics
a. Strengthening it ; hyper-æsthetics.

β. Lowering it ; anæsthetics.

3. Affecting voluntary and reflex spinal movements ; cinetics.

a. Affecting the tonicity of muscles.

aa. Augmenting it ; tonics.

ββ. Depressing it ; relaxants.

β. Affecting the irritability of muscles.

aa. Augmenting it ; spastica.

ββ. Diminishing it ; paralytica.

γ. Affecting volition.

δ. Affecting the reflex spinal functions.

4. Affecting sleep ; hypnics.

a. Causing it ; hypnotics.

β. Preventing it ; agrypnotics.

1. Affecting the heart and arteries.

a. Exciting them ; stimulants.

aa. Etherec-oily vegetables.

ββ. Resinous.

γγ. Ammoniacal and empyreumatic.

δδ. Animal excretions.

εε. Phosphorus.

ζζ. Spirituous and etherial.

β. Depressing them ; sedantia.

2. Affecting the alimentary canal.

1. Enterics ; anthelmintics.

2. Hepatics.

3. Splenics.

4. Sialics and pancreatics.

Class VI. Neurotics or remedies acting on the nervous system.

1. Cerebro-spinals

2. Ganglionics.

Class VIII. Cæliacs or remedies acting on the digestive organs.

Class VIII. Eccritics, or remedies acting on the excrement system.	{	1. Augmenting secretion.	1. Errhines.
			2. Expectorants.
			3. Emetics.
			4. Cathartics.
			5. Diaphoretics.
			6. Sialogogues.
			7. Cholagogues.
			8. Diuretics.
	{	2. Diminishing secretion.	
Class IX. Genetics, or remedies acting on the sexual organs.	{	3. Altering the quality of the secretions; lithics.	
			1. Affecting the organs, aphrodisiacs, anaphrodisiacs.
			2. Affecting the uterus, emmenagogues, ecbolics."

It must be admitted, that the divisions and subdivisions of this table are sufficiently ample—perhaps in some respects unnecessarily so; but—as before remarked—we are not disposed to find fault with any arrangement that includes all the various remedial agents, or that finds a place for every one which is admitted to possess decided potency in the cure of disease. Under “*resolvent or liquefacient spanæmics*,” the “*liquefacientia*” of Plagge—as we stated in a former number of this journal—and other German pharmacologists, and of the last edition of his own work, Dr. Pereira places alkalines, salines, iodics and bromics, sulphurous agents, mercurials and antimonials. Arsenic is not, however, there, nor do we find other articles that modify nutrition, and were in older periods classed, with numerous others, as “alteratives.” Arsenic appears under the suborder *Spanæmica antispasmodica*, along with the sulphate of, and ammoniated, copper, the nitrate of silver, the trisnitrate of bismuth, and the oxide and sulphate of zinc.

It is proper, however, to say that under arsenious acid the author observes: “On the whole, it is impossible, I conceive, in the present state of knowledge, to designate the medicinal effect of arsenic by any term, which shall briefly but characteristically declare its physiological properties. The terms *tonic* and *antispasmodic* are quite insufficient for the purpose; nor am I satisfied with the designation *antispasmodic spanæmic*, before” [in a former part of the volume] “given to it.” p. 663.

In this want of satisfaction we participate; but we go farther, and consider the evidence, derived from our knowledge of the *modus operandi* of the different agents classed under the resolvent or liquefacient and the antispasmodic spanæmics, to be insufficient to establish such suborders. All that we seem to know of the remedial agency of the former is, that they modify nutrition—in all probability through some change impressed on the blood—and in this manner remove the different forms of dyscrasy in which they have been found efficacious; but that they do this as “spanæmics” or “impoverishers of the blood,” or as “liquefacients” of the morbid formations, appears to us to be wanting in confirmation and even in probability. And in respect to the “antispasmodic spanæmics:” the more the action of reputed “antispasmodics” is investigated, the more must we be satisfied, that we are not possessed of any agent that can be considered as endowed with positive antispasmodic virtues. Spasm is primarily a nervous phenomenon, which may be the result of a sthenic or an asthenic condition; so that remedies possessed of antithetic effects as vital agents, may be entitled, according to the condition of the system, to the epithet “antispasmodic.” Assafœtida, castor, dracontium, &c., which are repugnant to taste and smell, and therefore are well calculated to excite a new and powerful impression on the nerves of gustation and olfaction, and are withal excitant to the nerves of the digestive tube, have usually been ranked as “direct antispasmodics;” yet their action is obviously of the most indirect kind; and not a particle of reason, we think, exists for the belief, that any antispasmodic has a direct action on the muscular fibre, by which it can resolve spasm, as has been maintained by some. The phenomena of spasm are produced by erethism in some portion of the nervous system,—when general, of the reflex portion more especially; and accordingly the efficacious remedies are such as act most powerfully on the nervous system. Who, in a case of tetanus or hydrophobia, or of spasm from luxated bone, would dream of reposing his confidence in such “direct antispasmodics” as assafœtida, castor, valerian or skunk cabbage? But we are discussing the order of arrangement adopted by the author, when we had designed to pass it by without any protracted comment.

To the immense labour, the signal accuracy, the vast erudition of its author, not only in pharmacology, but in most departments

of his profession, the volume before us bears unquestioned testimony. In every work of the kind having the character of an Encyclopædia or Dictionary of science, it is usually easy to detect omissions; yet in the volume before us these are at least as few as in any similar undertaking. Many of the works on the subject published in Germany, France, England and this country, have been referred to by Dr. Pereira, with suitable acknowledgments; others have evidently not been available to him.

The ectrotic employment of the tincture of iodine externally in small pox we find has escaped him—perhaps on account of the experiments of Dr. Crawford, of Montreal, and of Dr. Samuel Jackson, of this city, (formerly of Northumberland,) and of others not having reached him. They are referred to in the fifth edition of the “New Remedies” of Dr. Dunglison, which he had not received, as he quotes from the fourth edition;—but in a production of such rare excellence, and of such a magnitude, omissions of the kind are scarcely blemishes, and can be readily obviated hereafter; for we trust the work is destined to see many editions.

We dismiss, then, the consideration of the first volume of this “Encyclopædia of Materia Medica,” with the confident expectation, that the second volume will prove entitled to the same place in the estimation of the profession as the one before us, and with the hope that we may speedily have an opportunity to herald its advent on this side of the Atlantic.

A Manual of Physiology. By WILLIAM SENHOUSE KIRKES, M. D.,
Assisted by JAMES PAGET, Lecturer on General Anatomy and
Physiology at St. Bartholomew Hospital. *With one hundred
and eighteen illustrations on wood.* Philadelphia: Lea &
Blanchard, 1849.

The well known industry of the author and his collaborator, (both of whose names are familiar to us from their connection with the “Reports” on Anatomy and Physiology,) is sufficient warranty for the faithfulness in execution of the work before us. It was originally intended as a compendium of the larger treatise of Müller, and many of its chapters, viz.: those on *Motion*, the *Voice* and *Speech*, the *Senses*, *Generation* and *Development*, are

chiefly abstracts of corresponding portions of that work, and the supplement of Dr. Baly and the author. It was found, however, that the advance of physiology had so increased, and modified the facts of the science, that Müller's elements could only be employed as an authority, and the labour of the author in collecting and sifting these facts and opinions has resulted in the production of the volume whose title stands at the head of this article.

In looking through the work, we find but little to carp at, and that little rather in matter of opinion than of facts. In some places the author's style is inverted, and on this account is often obscure.

The first three hundred pages are occupied with the nutritive functions, in the arrangement of which, the author has departed somewhat from the usual plan, without, in our opinion, improving it. The first three chapters are devoted to a brief account of the chemical and structural composition of the human body, and the vital properties of the organs and tissues. We confess, that we would have preferred to see more space occupied with these important subjects, to the exclusion of the minute detail on some other points; organic chemistry, and general anatomy are now too intimately associated with the science of physiology, and are too essential aids to its correct understanding, to be so summarily dismissed. And yet it seems unjust to the author of a work like the present, confessedly a compendium of physiology, to expect the fulness and minuteness of detail that is demanded by the advanced student, since he expressly states that only so much of these kindred sciences is introduced, as will serve to remind the reader of knowledge already acquired.

In the section on *vital properties*, the author enumerates three, viz. : 1st. The *formative force*, or that by which living bodies are able to form themselves out of materials dissimilar from them, as, for example, when the ovule develops itself from the nutriment of the fluids of the parent, or when a plant, or any part of one, grows by appropriating the elements of water, carbonic acid, or ammonia, or when an animal subsists on vegetables, and has its blood and tissues formed from these articles of food. 2d. *Contractility*.—This consists in the power which certain tissues have during life of contracting, or shortening themselves in a peculiar manner, on the application of stimuli. It differs from the simple elas-

ticity, in the fact that it exists only during life, and is developed either by the direct application of stimuli to the tissue itself, or to the nerves ramifying in and upon it; it is inherent in the tissue, however, and is essentially independent of the nerves. 3d. The power of *conducting*, or *transmitting* stimuli, or impressions. This is ascribed to the nerves alone, and, according to the author, constitutes another vital property. It is one which manifestly belongs only to the animal kingdom, and can have no existence in the vegetable organism, which is entirely destitute of nerves. On this account it does not square with the ideas of many physiologists in relation to vital properties, which are defined as properties possessed by every living organism, *vegetable* as well as *animal*.

Chapter IV. contains an able description of the blood, its chemical composition, vital properties, and mode of development. In this chapter, the author alludes to the *vexata quæstio* of the cause of the change of colour in venous and arterial blood, briefly noticing the theories of Liebig, Mûlder and Stevens, with a decided leaning, however, to that of Mûlder, which attributes the change of colour to a change in the shape of the corpuscles, without any relation whatever to their chemical composition.

In the section on the vital properties of the blood, an abstract of the lectures on the life of the blood, delivered by Mr. Paget, at the College of Surgeons, in May, 1848, is presented to the reader. In this Mr. P. describes two sets of blood corpuscles, as developed at different periods of life, a first set which exists alone in the blood till the chyle and lymph begin to be formed, and a second which is formed from the lymph and chyle corpuscles, and gradually supersedes the first. The corpuscles of the first set, are, in the first instance, part of the embryo cells, which form the mucous or vegetative layer of the embryos in mammalia and birds, and the whole inner surface of the vitelline membrane, in the embryos of fish and reptiles. In the latter class, certain of these cells are laid out in the plan of the future heart and blood vessels, before the walls of those organs are yet formed, and before the blood has begun to move. These cells are described by Vogt, Kolliker, and Kramer, as large, colourless, and of a spherical form, filled with yellowish particles of a substance like fatty matter; each cell having a central nucleus, which is much obscured at first by the

forementioned fatty particles. In their development into the blood corpuscles, there is a gradual clearing up of the contents, an acquirement of blood colour, and of the elliptical flattened form, with the more prominent appearance of the nucleus. A similar change is doubtless effected in birds, though it is not so readily watched as in the batrachian embryos, in consequence of their more rapid development. In the mammalia, the earliest blood cells appear also to be a portion of the vegetative or mucous layer of the germinal membrane, and they have the same general appearance as those before mentioned. In these there has been observed a process of multiplication by bi-partition of the nucleus, each half of which, either by appropriating half the cell, or by developing a new one around itself, becomes the central nucleus of a new cell, differing from the parent, from which it escapes, only in being smaller and more generally circular. The subsequent changes resemble those already described; they gradually assume the red colour, and other outward appearances of the red corpuscles. In the development of the embryo, when the lymph and chyle begin to appear, and their corpuscles are added to the blood, they supersede those produced in the manner just described, the old set disappearing as the new set appear, until finally, in an embryo two months old, they would not be found at all, unless in a case of arrested development.

The author then goes on to describe the mode in which, at that time, as well as in after life, the white or colourless corpuscles are converted into the red corpuscles of the blood, thus explaining the mooted question of the origin of the latter. The white corpuscle, which at first is tuberculated, and contains many granules, becomes smoother, paler, less granular, and more dimly shaded. In these stages, the cell wall may be easily raised from its contents by water or acetic acid, and according to the stage of development, so are the various appearances which the cells, thus acted on, present. As the development progresses, the cell wall can no longer be raised from its contents, the corpuscle obtains a red tinge, the contained granules disappear, with the exception of the one, which sometimes remains a longer time, giving rise to appearance which has been mistaken for a nucleus. The blood colour now deepens, the corpuscles become smoother, bi-concave, smaller by condensation, and heavier, and, at the same

time, more liable to corrugation and to collect in clusters. This latter is the condition in which they seem to live the longer and more active part of their lives. This mode of production appears to be continued throughout life; new corpuscles never appearing to be produced from the germs of old ones; but when they have past their perfection, they degenerate, and probably liquefy. Herein is a provision for the welfare of the body, for if the blood corpuscles were, like many cells, derived from germs formed in their predecessors, then every loss of blood would involve the loss, not only of the corpuscles escaping at the time, but of all those that in after time would have descended from them. But as new blood is made by the lymph and chyle, its losses can soon be repaired, provided chylosis and lymphosis are not interfered with.

This doctrine is at variance with that of other physiologists to the effect that the corpuscles of the blood are reproduced by a species of fissiparous generation, each individual cell dividing itself into six new cells, according to some, or into two only, according to others, their primary origin in the embryo, being common with that of all the other tissues, from granules or cell germs. It is also irreconcilable with the doctrine of the functions of the white or colourless corpuscles, as set forth by Dr. Carpenter. According to this author there are found in both the vegetable and animal organisms, cells which are developed in a temporary manner; growing and arriving at maturity, and then disappearing apparently without having performed any particular function. This is seen in the albumen of the seed, and in the yolk of the egg. It is also seen, according to Dr. Barry, in the germinal vesicle. This-cell life can scarcely be supposed to be called into existence without some definite end or purpose, which seems here to be—the conversion of the crude alimentary materials into organizable fluids. A number of instances are cited in which this temporary cell-life is displayed, the result of which appears to be the conversion of the aplastic into plastic material.

Both in the blood and in the chyle and lymph cells are found identical with those described before in the origin of the blood corpuscles. In all these fluids the conversion of the aplastic albumen into the plastic fibrine is continually taking place, which conversion is said to be the function of these floating cells, the white corpuscles. In corroboration of this opinion, it is further

stated that the colourless corpuscles are always most abundant where fibrine is being elaborated, as in the lacteal vessels in their course from the intestine to the thoracic duct, and likewise in parts where inflammation is present, under which latter circumstances there is an increase both of the fibrinous element, and also of the white corpuscles.

We are free to confess that this doctrine accords more with our preconceived idea of the function of the white corpuscles than that of the work under notice; their larger size, granular appearance, higher refracting power, and greater firmness, seeming irreconcilable with their conversion into the smaller blood disc. But, unfortunately, it leaves us still at sea in regard to the origin of the latter, a fact which rather inclines us to adopt the doctrine of Dr. Kirkes. The chapter concludes with an exposition of the *purposes* of the blood thus developed and maintained. "1st. To provide materials appropriate for the nutrition and maintenance of all the parts of the body. 2d. To convey to the several parts oxygen, whether for the discharge of their function, or for combination with their refuse matters. 3d. To bring from the same parts those refuse matters, and convey them to where they may be discharged.

Chapter V. is on the circulation of the blood. It treats of the *Action of the heart*; of the *Action of the valves of the heart*; of the *Sounds and impulse of the heart*; of the *Frequency and force of the heart's action*; cause of the *Rhythmic action of the heart*; *Effect of the heart's action*; of the *Arteries, The pulse*; *force of blood in the arteries*; *The Capillaries and the veins*.

In the explanation of the sounds of the heart, the author adopts the opinion of Müller, as to their cause, viz.—the contraction of the muscular fibres and the impulse against the walls of the chest, scarcely taking into account the agency afforded in their production by the rush of the blood through the narrow orifices of the aorta and pulmonary artery.

From the experiments of Cruveilhier, it appears that the first sound is heard in its greatest intensity over the very spot in which the second sound is heard most distinctly, viz. at the origin of the pulmonary artery and aorta, and that a distinct purring sensation can also be felt at the same point. Without, therefore, denying the participation of muscular contraction in the first sound, Cruveilhier's observations appear to establish the fact, that the pro-

longed rush of blood through the orifices of the aorta and pulmonary artery, and the throwing back of the semilunar valves, are the principal causes in its production.

In regard to the second sound, he adopts the usual explanation of its cause, viz. the sudden shutting down of the semilunar valves.

In the section on *The Arteries*, the author establishes their muscularity, but seems to be at fault in relation to its function, not acknowledging that it can assist in the propulsions of the blood, but that it merely regulates the diameter of the vessels in proportion to the amount of the circulating fluid. He thinks that the muscular coat can take no part in the propulsion of the blood, inasmuch as it has no alternately dilating and contracting power, seeming to forget that the stimulus of distention created by the successive jettings of the ventricle is sufficient to excite the contractility of the muscular fibres, and thus assist in the propulsion of the blood.

In the section on *The Circulation in the Capillaries*, the author says, in alluding to the force of the heart: "There is, therefore, no need of an hypothesis of any action of the capillaries for the regular propulsion of the blood through them, nor is it probable they have any such office."

In this point, also, he adopts the opinion of Müller, based upon the observations of Wedermeyer and Dr. Marshall Hall, that "even in the state of greatest debility, the action of the heart is sufficient to impel the blood through the capillary vessels." He admits that "under certain circumstances, the capillaries can exercise an influence on their contents; but that this can be explained by the action of the small arteries, or by the relation which exists between the tissues and the blood."

In order to establish the existence in the capillaries of a motive power, independent of the heart, it is only necessary to cite a few instances in which it is manifestly present. In the embryo the first movement of the blood is seen in the vascular layer of the germinal membrane, before a heart is formed, and it is known that these first movements are *towards* the body of the new being, and not from it, as a centre. The circulation also, is carried in the acardiac fœtus, and the development of the different organs is often as complete as in the perfectly formed fœtus. Dr. Carpenter, whom we again cite,

on this point, says that the movements of the blood in the capillaries of cold-blooded animals, after complete excision of the heart has been repeatedly witnessed, and that after most natural deaths the arterial system is found empty; and further, that a real process of secretion not unfrequently occurs after somatic death has taken place. Urine has been poured out by the ureters, sweat by the skin, and other peculiar secretions by their glands; not one of which could have taken place, had there been no capillary circulation.

In a paper that has been received since the commencement of this article, additional evidence in favour of an independent capillary circulation has been received.* In this it is shown that in a vast number of instances the capillary circulation was carried on to such an extent after death, as to cause the blood to jet from a vein as in the operation of venesection. The experiments were, for the most part, performed on yellow fever patients, and generally, immediately after death.

“In the experiments on post-mortem venesection, elevated points and positions were chosen, when practicable, in order to cut off all possibility that the result might be influenced by gravity; at the same time, care was generally taken that the orifices in the arm, forehead, external jugular, &c., should be elevated but *little* above the level of the highest part of the body, for fear that gravity might favor the result—which it always does to a very limited extent at the first moment, though it makes the subsequent part of the experiment far more striking and brilliant. Sometimes, the elevation was taken, by pouring water on a plank, the latter resting on the body. All the blood, at the moment, in the *distal* end of the vein, that is, beyond the orifice, would, if raised above the level, be discharged from gravity; perhaps an ounce or more would, in some cases, thus be lost in emptying the vein, but then, *no more could get there*, to replace the *first*, unless by a power altogether *different from gravity*. Hence, it appears, that all the blood, with this inconsiderable exception, after the *first moment* flowed by capillary forces—without the aid of, or rather *against*, all that is called mechanical principles—against all the chemical forces incidental to respiration—against ganglionic forces, for the ganglions were often cut away,—and, always, without aid from the heart.

Case.—1841. Yellow Fever. A man aged 34, died—was brought immediately, &c.; a vein in the left arm was opened—the blood flowed

* *Researches Critical and Experimental on the Capillary Circulation.* By Bennet Dowler, M. D., of New Orleans.

freely—on moving the muscles it jetted, and upon ligation formed an arch of about eighteen inches in diameter, as in ordinary venesection. The left jugular being opened in the usual manner, bled copiously without jetting. The abdomen, and chest, were opened without delay; one of eight or ten little twigs of nearly equal size, belonging to the coronary vein of the heart, was opened upon its highest point; the blood shot out in a small, strong stream, a pint being discharged in a few minutes. The omenta, and mesentery, were beautifully and forcibly distended, especially, in the venous vessels. The cavas discharged from three to four pounds of blood.

Case.—1841. Yellow Fever. A man, aged 25, died, lying on his right side—soon after he was placed on his back—in which position, in fifteen minutes after death, he was opened. The liver, which was very brittle, was penetrated upon its highest, convex surface; in a few minutes, three and a half pounds of blood were discharged. The blood was taken up from the abdomen, in a sponge, and squeezed out into a vessel and measured. A puncture with the *finger*, would not be likely to divide any large vein, nor even in the living state, produce much hæmorrhage. The capillaries of the portal system, supplied nearly all this blood, so rapidly delivered from the abdominal viscera. (At the close of life, this man had nasal hæmorrhage.) Those who practice anatomical injections, know that only a few ounces of wax can be forced into the vessels of the liver.”

In the author's own language, “These facts are not referable in their main features to any physical or non-vital law; they are the last acts of vitality, before yielding complete and endless submission to the laws which govern the inorganic world—the preludes to the entire extinction of life.” The cases quoted are but two out of a number of similar ones; the subjects dying of yellow fever, apoplexy and cholera; and it is difficult to explain them on any other ground than that of a post mortem capillary power independent of the heart's action.

At the first blush it seems as though they were capable of explanation on the ground of pressure upon the superficial veins during the post mortem rigidity, just as muscular contraction will facilitate the flow of blood in venesection, but this will not explain the post mortem circulation in the mesentery, the venæ cavæ, the liver, and the brain. The upholders of the capillary power owe a debt of gratitude to Dr. Dowler for the strong ground that his valuable contribution to Physiology enables them to assume, and we would strongly recommend his essay to the careful perusal of

the Physiological student as well as to the skeptical on this subject. In addition to the establishment of the points under consideration, the experiments of Dr. Dowler also confirm the doctrine of a propelling power in the chylous vessels, as is seen in the following cases in which the external jugular was opened and the chyle made its appearance in the escaping blood. It will be seen that in this instance the blood moved in a retrograde manner. This is explained, however, by Dr. Dowler, as follows :

"The capillaries filled the veins rapidly. The forces in the cavas, contended face to face. The right side of the heart had no outlet. The equilibrium between the ascending and descending cavas was broken. The latter was weakened by the force or pressure turned off by the orifice, in the jugular. The pressure from below caused a retrograde movement—a very short one—towards the point where there was the least pressure, that is, the orifice in the vein.

In the early part of the experiment, particularly after the jetting of blood was changed to a stream down the neck, I observed, for a long time, that is while the blood flowed, what then appeared to me an inexplicable phenomenon, namely, white, milky streaks, or soft flocculent masses, passing out of the orifice in the blood, or rather swimming on the top of the current, a diffused drop or white flocculent cloud of this kind, was carried out once or twice every second. The subsequent dissection fully explained this. The stomach contained nothing but water, of a sourish scent, with a few, very slender, tendinous fibres, apparently of beef, perhaps not amounting to five grains; but the quantity of chyle, of a pale milky, white color, thinner than paste, in the small intestines, was very extraordinary. The lacteals were gorged with this liquid,—the very same kind that I had seen passing from the jugular. I had, fortunately, opened the left jugular, near the place where the chyle is poured into the subclavian, so that it found an easy exit, along with the reflux current of blood, which latter, as before suggested, passed, or a part of it, in a retrograde course, proving at once, the independent forces of the lacteal, and blood vessels,—modified in this instance, however, by an important law of hydrodynamics, which changed their physiological directions.

This last case, (not to name others), fruitful in physiological suggestions, shows that although life, in its popular or utilitarian sense, be completely extinct, several important sub-lives, in tissues, and several functions may survive for a considerable period, as manifested in the heat generating process, in muscular contractility, in capillary action, and in the chylous circulation."

These facts, independently of the arguments of Mr. Daniell, Dr.

Draper, Dr. Carpenter, and others, are to our minds capable of fully establishing the points under consideration, to wit, the existence of a capillary power independent of the heart's action, and vital in its character.

Our waning space warns us that it is time to hasten to the consideration of the remainder of the work under notice, which we do with the observation that the remainder of the chapter on the circulation seems fully posted up to the existing state of the science.

In the chapter on RESPIRATION, a full analysis is given of the valuable paper of Mr. Hutchinson upon the *vital capacity* of the chest, and the influence which age, sex, and size exert upon it. This vital capacity is indicated by the amount of air that is capable of being expelled from the chest by the greatest possible expiration, after the deepest possible inspiration. It will readily be seen that if any certain average can be established as regards the vital capacity, then any falling short of this would be an indication of disease, even before its revelation by physical signs, as was seen in the case of Freeman, the American giant, referred to by Mr. H.

Chapter VI. is on Animal Heat, a title, by the way, which seems to us objectionable in a Physiological treatise, since it conveys the idea that the production of heat is a function exclusively animal, and not existing in the vegetable. This impression is scarcely corrected by the slight reference to the evolution of heat in vegetables on page 182. The old title of *Calorification* seems preferable.

Chapter VIII. and IX. treat very fully and ably of the subjects of Digestion and Absorption. In chapter X. on Nutrition and Growth, we have been anticipated in a criticism which we had marked, by a trans-atlantic reviewer.* On page 23, it is laid down that a certain influence of the nervous system is essential to healthy nutrition.

We are ready to admit that the function of nutrition may be *modified* by the agency of the nervous system, but we cannot agree that the influence of the nervous system is *essential*, simply for the reason that the function of nutrition and growth is carried on in the ovum at a period anterior to the development of a nervous

* British and Foreign Medico-Chirurgical Review, Jan., 1849.

system, and that it is also manifestly present in the vegetable kingdom, in which nothing analogous to a nervous system can be found; these latter facts, however, are stated by the author also. In the language of the reviewer mentioned above, our own ideas on this subject are expressed. "What is meant," says he, "by the expression a *condition essential*, but that without this influence healthy nutrition is impossible? Nutrition is a property inherent in each tissue, though it may, especially in the higher animals, be influenced by causes acting through the nervous system. It is absolutely necessary to separate those conditions which are essential, from those which are accidental or accessory, if we wish to avoid falling into serious errors."

The last of the functions treated of in this part of the work is *Secretion*, after which *the Nervous System* and *Generation*, and *Development* are considered in detail.

In animadverting upon this part of the work, we cannot omit to notice what is evidently an inadvertence on the part of the author in relation to the laws of optics. On page 406 in speaking of the *cornea*, he says :

"It is in a two-fold manner capable of refracting and causing convergence of the rays of light that fall upon and traverse it. It thus affects them, first, by its density; for it is a law in optics that when rays of light pass from a rarer into a denser medium, if they impinge upon the surface in a direction removed from the perpendicular, they are bent out of their former direction towards that of a line perpendicular to the surface of the denser medium; and, secondly, by its convexity—for it is another law in optics that rays of light impinging upon a convex transparent surface are refracted towards the centre, those being most refracted which are farthest from the centre of the convex surface."

This second law in optics is new to us, and entirely unnecessary, the first being amply sufficient to explain the convergence of rays of light falling upon a double convex lens, as well as the divergence of those that are transmitted by a double concave one, provided the remainder of the law be expressed, that a ray of light passing from a denser into a rarer medium, is refracted from a perpendicular drawn to the surface of the medium at the point of emergence.

But we have already too much extended this notice, and we are

therefore obliged to take leave of this work, which, notwithstanding our criticisms, we believe to be an honest and faithful digest of physiological facts and opinions, fully representing the present state of the science.

In the American reprint, the publishers have improved greatly upon the English manual, by introducing well executed copies of the engravings in the front part of the work, through the body of the book, thus saving the student the annoyance of turning backwards and forwards in referring to them.

As an introduction to the study of the larger works, or as a reference for those who desire to "brush up" their knowledge, we most cordially recommend the manual of Kirkes and Paget to both practitioner and student, with the firm conviction that they will not be disappointed in the end they desire to attain.

An Introduction to Practical Chemistry, including Analysis. By JOHN E. BOWMAN, Demonstrator of Chemistry in King's College, London. Philadelphia, Lea & Blanchard, 1849 : pp. 302.

The little work, of which the above is the title, has just made its appearance in an American dress, through the enterprise of Messrs. Lea & Blanchard, who have already done so much for this branch of scientific literature. The chief merit of the work in question, is the presentation of an abstruse subject in a manner well suited to the ready comprehension of beginners, whilst the manner of proceeding with reference to analysis in many of the cases instanced, will serve to refresh the memories of the more advanced. The importance of analytical knowledge to the physician is great—he is almost entirely dependent on others for assistance in those cases which are recurring from time to time in his practice. When it is necessary to know the composition of a calculus, of urine, or some other secretion or excretion of his patients, and where his location does not admit of appeal to others, a want of this knowledge deprives him of a powerful aid in his diagnostic examinations.

It is presumed that every practitioner has a certain respectable amount of chemical knowledge acquired in the course of his education. With a set of re-agents, a little simple apparatus, and the book under consideration in his possession, a little attentive

and persevering application will place him in a position independent of others in a variety of the cases alluded to ; and though, with these few accessories, he may never hope to be a Liebig, or a Mülder, they will be sufficient to give a value to his opinions in the judgment of others, and certainly in his practice, altogether satisfactory to himself, and beneficial to his patients.

The first part of the work is devoted to Manipulation—the manner of proceeding in the generation of gases—distillation—glass working, blow-pipe operations, specific gravities, the applications of heat, &c. The second part, to the action of re-agents on bases and acids. The third part, to the qualitative examination of unknown substances. The fourth part to quantitative analysis, with a preliminary chapter on the mechanical operations required in its pursuit. The fifth part includes the mode of proceeding in examining urinary and biliary calculi, &c., the manner of assuring one-self of the purity of re-agents.

An appendix to the work embraces many valuable tables of weight, measures, solubilities, specific gravities, &c., and adds much to its value as a book of reference. In conclusion, we would strongly recommend “Bowman” to the attention of our medical friends and readers who have chemical predilections, as well as to those who stand in need of this kind of knowledge, as a valuable contribution to the list of treatises on analytical chemistry.

THE MEDICAL EXAMINER.

PHILADELPHIA, MARCH, 1849.

THE SUMMER MEDICAL SCHOOLS OF PHILADELPHIA.

(From a Correspondent.)

At this season the professors in our medical colleges are doubtless rejoicing at the approaching close of their yearly labours, and the thousand students who have filled our halls of science are equally elated, we are sure, at the prospect of the speedy emancipation that awaits

them. But although the lessons of these eminent instructors shall for the present cease, and the throng of their pupils disperse,—yet in the interval between the conclusion of one and the commencement of another winter session, medical science is not without its interpreters in this city, nor, we are happy to add, without numerous and diligent disciples.

For thirty years there has been one or more institutions in which all the ordinary branches of a medical education have been taught, from April or May until November in every year, and the number of students who have annually availed themselves of their advantages has seldom, we believe, fallen below one hundred. The quality of the instruction imparted may be inferred from the fact that of the fourteen professors in the two largest colleges of Philadelphia, all but three were at some time connected with these summer schools.

The traditions of summer medical teaching may safely be said to live in undiminished vigour, for at no previous date have more intelligence, industry, and experience, been devoted to this important pursuit. In several respects, indeed, and particularly in the means of illustrating lectures by apparatus, specimens, models, drawings, &c., and by clinical observation, the summer schools of the present day have greatly the advantage of their predecessors. They are, besides, advancing constantly in the road of improvement; for they are stimulated by a spirit of generous rivalry which urges them to compete for intelligent students by superior advantages, instead of degrading both themselves and medical science by flattering the indolent, and those who have yet to learn that cheap knowledge is of all cheap things the most worthless. Such a spirit indicates something more than personal good feeling, and fairness of dealing among the parties; it offers the strongest possible security that the good of the pupils is the primary and paramount object of the lecturers. A glance at the names of these gentlemen, nearly all of whom are favorably known to the profession, will strengthen this assurance. They are as follows:

PHILADELPHIA ASSOCIATION FOR MEDICAL INSTRUCTION.—*Anatomy*, J. M. ALLEN, M. D.; *Physiology*, F. G. SMITH, Jr., M. D.; *Materia Medica and Therapeutics*, FRANCIS WEST, M. D.; *Medical Chemistry*, ROBERT BRIDGES, M. D.; *Diseases of Children*, J. FORSYTH MEIGS, M. D.; *Institutes and Practice of Surgery*, J. M. WALLACE, M. D.; *Pathology and Practice of Medicine*, ALFRED STILLÉ, M. D.; *Obstetrics and Diseases of Women*, DAVID H. TUCKER, M. D.

MEDICAL INSTITUTE OF PHILADELPHIA.—*Anatomy*, JOHN NEILL, M. D.;

Materia Medica and Therapeutics, JOHN J. REESE, M. D.; *Obstetrics and Diseases of Women*, WM. BYRD PAGE, M. D.; *Surgery*, HENRY H. SMITH, M. D.; *General and Special Internal Pathology*, MEREDITH CLYMER, M. D.; *Physiology*, JOSEPH LEIDY, M. D.—“Dr. HORNER will assist in the lectures on Anatomy.”

PENNSYLVANIA HOSPITAL.—*Clinical Medicine*, W. PEPPER, M. D., and W. W. GERHARD, M. D.; *Clinical Surgery*, EDWARD PEACE, M. D., and GEORGE FOX, M. D.

WILLS' HOSPITAL.—*Clinical Ophthalmic Surgery* by ISAAC PARRISH, M. D., and GEORGE FOX, M. D.

It is evident from this enumeration that all, and more than all, of the branches taught in the colleges are fully treated of by the summer lecturers, and yet the student, instead of spending five or six hours daily in the lecture room, is subjected to only one-half that amount of confinement. He can, moreover, pursue such courses only as he may select; and, if he prefer to attend but a part of the lectures in one school, or to take the ticket of one or more lecturers in each school, he is still at liberty to do so. Both the “Institute” and the “Association” have been careful to arrange the lecture hours so as to enable their classes to follow the *daily* clinical instruction at the Pennsylvania Hospital, the lessons given at Wills' Hospital upon diseases of the eye, and the Dispensary consultations and operations at the University, and the Jefferson College.

The opportunity of studying bed-side medicine forms one of the chief attractions and merits of the summer schools of Philadelphia. All experienced teachers are agreed that the principal defect in the education of medical students in this country is the superficial acquaintance they obtain of the phenomena and treatment of disease. They are well grounded in Anatomy, Chemistry and *Materia Medica*; they acquire a tolerable knowledge of Physiology, and learn all that they can be expected to learn of the practice of Medicine, Surgery and Obstetrics, from the most eminent professors of these departments. But very few amongst them are competent, upon graduation, to determine the nature of a given case of disease, to direct its treatment, or to comprehend, or even detect, the changes of structure revealed by dissection. They have not, in general, even such a familiarity with the physiognomy of disease as will put their investigations upon the right track when they commence the practice of their profession.

Nothing, so much as this defect, is calculated to paralyze the efforts of the young physician, and dishearten him not only in his first, but in

all his subsequent combats with disease. For there is much, very much, in hospital practice which may be readily learned from a competent instructor, but which none but the most gifted minds can acquire when left to their unaided resources. To such as intend to reside in a large city or populous town, the mischief is less serious, because on every side the counsel and assistance of experienced and skilful men are to be procured; but to the vast majority of practitioners, to those who must fix their residence in thinly peopled districts, and, living almost entirely isolated as regards medical association, must depend altogether upon themselves, the mischief is incalculable, and what is worse, without remedy. The time and opportunity for retrieving their loss are gone forever.

The attempts which some of our colleges have made to supply the want of clinical instruction by means of public consultations and operations in the amphitheatre, are in themselves praiseworthy; but none more than they who have at the time felt satisfied with such lessons, have subsequently owned their inadequacy to take the place of hospital instruction,—the substance, of which these demonstrations are merely the shadow. A summer's course in Philadelphia affords the best possible opportunity for attending to this essential branch of medical education; for while the student is daily trained in the didactic and demonstrative branches of his science, and has, therefore, its principles constantly fresh in his memory, he, with equal frequency, is permitted to learn at the bed-side that without which all the rest of his knowledge would be almost useless. He there learns to recognize diseases, and to distinguish them from one another; he learns how to ascertain their history, and the value of their symptoms; to watch their changes from day to day through every stage from invasion to convalescence, and how to meet the special indications which they present, with appropriate combinations, and an opportune application of remedies. His clinical studies, in fact, stand him in the stead of many years of experience, by the variety of cases to which they relate, and still better by affording him a safe guide and example where he must have groped and doubted if left to himself.

A notion has very generally prevailed that our summer schools are severally attached to some of the medical colleges of this city, playing the part, as it were, of nurseries to these latter, and consequently that the Lecturers of the former are little else than *répétiteurs*, or recapitulators of the Professors. How so erroneous an idea could have become accredited, it is difficult to conjecture. But certain we are that the

Professors themselves could never have given countenance to so injurious a supposition. To them it must of course be gratifying to know that their students, during the summer, are listening to the same truths which they themselves teach, but presented in another form and manner than their own; and they cannot but acknowledge that the fitness of the Lecturers for their office is much better shown by an original mode of teaching, than by a slavish imitation of themselves either in doctrine or style. We are certain that the insinuation referred to could never have proceeded from the students in the summer-schools; for these gentlemen would scarcely be attracted by the diluted reproduction of a course which they must of necessity hear twice in the winter season,—they naturally prefer what is original, even if reputed to be inferior, for in such they cannot fail at least to find something novel either in statement or opinion.

It may be objected that this double and somewhat divergent instruction on the same subject may confuse the student's mind, or disturb his faith in the dicta of his Professor. The objection is more specious than sound. The lectures of both classes of teachers are composed of facts and opinions; the former must be much the same in each; the latter, if antagonistic, merely illustrate to the student what it is well that he should learn betimes—*opinionem delet dies*. His solid acquirements will be none the less, because he finds that different explanations may be given of the same phenomena.

But although the relation of the summer-schools to the colleges is not one of dependence, nor yet that of copyists, it is one of subordination in the hierarchy of public instruction, a position which is viewed with pride and satisfaction by the Lecturers, as one second only in dignity and usefulness to the Professorship itself. For it does not admit of doubt that of those students who attend the summer-schools, a larger proportion graduate with distinction, and practice with success, than of any equal number who attend the winter courses alone. It is true that a great part, if not all of the merit thus obtained is apt to be referred, by strangers, to the school in which the successful student graduates; but *he* is never backward in attributing a liberal share of the credit to his summer-teachers, and they, in their turn are amply rewarded by seeing the excellent fruits of their comparatively unappreciated labour. That they rest contented with playing the part of auxiliaries, and do not repine at seeing their light merged in the brightness of the Colleges' reputation, proceeds from a conviction of the real eminence of their position; for it depends upon themselves alone whether they shall continue to hold it, or assume one of rivalry to

wards the winter-schools, by procuring the right to confer medical degrees. It is scarcely doubtful that a capable and honest school or schools, possessing such powers, and adopting the summer instead of, or along with the winter term, would attract a large number of students; and it is very certain that neither capacity nor honesty are necessary to ensure the grant of such powers in these days of liberal legislation. For ourselves, we should earnestly deprecate any such step, for we believe that the true interests of medicine in this country are best to be promoted by restricting far within its present limits the right of conferring degrees, while the avenues to medical knowledge are at the same time multiplied to whatever extent the wants of the community may require. "Free trade" in teaching can work no harm, if it is not coupled with a corresponding license to stamp goods of every quality with one and the same mark; but an indiscriminate grant to impose the title of Doctor of Medicine, amounts to a permission to commit forgery with impunity.

We repeat, then, that the vocation of our summer lecturers is equally honourable and important. Nothing but ignorance of its great utility, as well in maturing and storing the student's mind, as in giving him direct preparation for practice, can account for the fact that so small a proportion of the whole number of medical students avail themselves of its advantages. For their information, and for that of the gentlemen who are intrusted with the direction of their professional education, these pages were written. We are persuaded that they will find the subject one of greater moment than they have supposed, and, it may be added, one that is yearly growing in consequence; for with the determination of the medical public to insist upon a more complete education of students than heretofore, and the difficulties of extending and enlarging the winter courses with all the desirable completeness and rapidity, the summer schools acquire an additional importance. Indeed, if properly supported, they would go very near to curing the defects in our system of education, of which complaint is so widely and so justly made.

SYDENHAM SOCIETY'S WORKS.

The first volume of this most useful Society's publications for the year 1848-9 has probably, by this time, reached our shores. From unavoidable circumstances, it has been detained longer than usual. It is *Rhazes on the Small Pox*, edited by Dr. Greenhill, of Oxford—a learned and industrious physician—in every way com-

petent to the task. "The next volumes," says the Secretary, Dr. James Risdon Bennett, in a letter to Dr. Dunglison, which we have seen, "will be *Hippocrates*, Vol. I., and *Sydenham's Life and Works*, in English, Vol. I. We shall also give you a fourth for the year, viz.: *Rokitansky's Pathological Anatomy*, Vol. I. Both in amount and variety, therefore, I trust, that we shall abundantly satisfy our trans-Atlantic friends." For the sum of *five dollars*, paid to the Honorary Local Secretary, and the expenses of transmission and duty, amounting in all to about *six dollars and a half*, four handsome and valuable volumes are placed in the hands of subscribers here. The volumes for the 5th year of the Society's existence were—one of *Paulus Ægineta*; *Feuchtersleben's Medical Psychology*, *Microscopical Researches of Schwann and Schleiden*, and a volume of *Memoirs of the French Academy of Surgery*.

In a country where there are so many professional readers, the immense labour—of the most disinterested kind too—voluntarily undertaken by many of the most distinguished physicians and surgeons of Great Britain, composing the board of management of the Sydenham Society, can scarcely fail to be appreciated, and exhibited by the increasing number of names in their annual catalogue from this side of the Atlantic.

DELEGATES.

We give below a list of those who have been selected from the College of Physicians of Philadelphia, and from the Medical Societies of the counties of Philadelphia and Alleghany, as delegates to our State Medical Society, which meets at Reading, in April, and to the American Medical Association, to be held at Boston in May next. Other societies may have made similar selections, but as yet the names of the delegates have not reached us. We hope no society will neglect the election of delegates to our National Association, because we consider it essential to the success of the movements of that body, that its meetings should be participated in by as large a number of the profession as possible. Let the representation be full; let harmony and good feeling control the conduct of each delegate, and the cause of medical reform must prevail. In union there is strength, and the members of the association should meet, disposed to compromise conflicting opinions; for however

they may differ as individuals in regard to the best means of effecting medical reform, there is not one of them who does not desire sincerely the improvement of the profession of which he is a member. This, we are convinced, is the wish of *all*. Why then cannot all come forward in a spirit of good fellowship and aid in the reformation of those abuses which are said to exist in our system of education. In the performance of their duties, we trust, the members of the National Medical Association will remember that *every change, is not reform*. It is better to improve than to destroy our present system; but these improvements, introduced with caution and judgment, should always be modified to suit the peculiar condition of things by which we are surrounded in this country.

Alleghany County (Pa.) Medical Society.—At a meeting of the Medical Society of Alleghany County, Pa., the following officers were elected for the present year:—*President*, Dr. Joseph P. Gazzam; *V. Presidents*, Drs. J. Brooks, R. B. Mowry; *Cor. Sec.*, Dr. Samuel Dilworth; *Rec. Secs.*, Drs. A. M. Pollock, John S. Irwin; *Treasurer*, Dr. George D. Bruce; *Censors*, Drs. Joseph P. Gazzam, J. Brooks, E. G. Edrington; *Board of Examiners*, Dr. Robert Snyder, T. McKennon, William McK. Morgan.

Drs. Robert Snyder and Wm. McK. Morgan were elected delegates to the State Medical Convention, to meet at Reading.

Dr. Joseph P. Gazzam was elected delegate to the National Medical Convention, to meet at Boston.

Drs. Wm. Addison, J. Brooks and D. McNeal were appointed a committee to confer with a committee from the City Councils upon the subject of the cholera.

At a meeting of the Philadelphia College of Physicians held February 6th, 1849, the following were elected Delegates to the American Medical Association:—George B. Wood, Francis West, Alfred Stillé, George W. Norris, Isaac Hays, D. Francis Condie, Henry Bond, Samuel Jackson (late of Northumberland), George Fox, Gouverneur Emerson.

At a meeting of the Philadelphia County Medical Society held January 30th, 1849, the following were elected Delegates to the State Society:—H. S. Patterson, T. Hobson, F. G. Smith, Isaac Hays, W. Jewell, T. F. Betton, T. S. Reed.

And the the following were elected Delegates to the American Medical association :—J. H. Yardley, W. H. Klapp, W. Maybery, M. M. Reeve, W. B. Page, H. Gibbons, T. F. Betton.

At a meeting of the Philadelphia County Medical Society held January 30th, 1849, the following resolutions were adopted :

Resolved, That the Society has heard with great satisfaction, that a renewed effort is making in the Legislature of Pennsylvania, to procure the enactment of a law for the registration of Births, Marriages, and Deaths.

Resolved, That believing such a law adapted to promote, in a high degree, the health, and therefore the prosperity and happiness of the people, as well as to guard more effectually the rights of the citizens, this Society would unite with the National and local Societies which have already addressed the Legislature upon the subject, in urging upon that honorable body the early enactment of a Registration Law.

A notice of the transactions of the College of Physicians and of several Introductory Lectures will appear in our next number.

It will be seen by reference to our advertising sheet, that Mr. J. C. Turnpenny offers for sale a complete collection of articles intended as illustrations to a course of Lectures on Materia Medica. The medicines and the dried plants have been selected with the greatest care, and the paintings, executed by Wm. McIlvaine, are beautiful and faithful representations of most of the medicinal plants. We would advise those engaged in teaching, to examine this collection, if they feel disposed to supply themselves with handsome illustrations of the Materia Medica.

In the notice of *Morton's Human Anatomy*, in the last number of the Examiner, the names of the Publishers were omitted ; they are *Messrs. Grigg & Elliot*, No. 14 N. Fourth Street.

RECORD OF MEDICAL SCIENCE.

ANATOMY AND PHYSIOLOGY.

Extraordinary Malformation of the heart, and great arteries of a child at birth. By C. CLARK, Esq., Surgeon, Notting Hill.—On the 4th of August, 1847, I was called in to attend Mrs. C——, a fine, healthy young woman, twenty-two years of age, in labour with her first child. The labour was perfectly natural and easy for a first case: she was safely delivered of a female infant, in the course of five or six hours, the only remarkable point about the case being, that the liquor amnii consisted of scarcely more than half a pint of matter somewhat resembling coffee-grounds. The child, when born, seemed puny and feeble, and the respiratory process was not fully established, until the usual means of resuscitation had been adopted, but even then, and afterwards, there remained a lividity about the mouth, and other signs of a weak circulation, though not so remarkable as might be expected, considering the true nature of the cause, of which of course I was ignorant at the time. The mother's breasts being devoid of milk, the child was fed artificially, and on my first visit next morning appeared to be doing pretty well, the excretions having been all duly performed. Next day, however, the nurse stated that it had cried a good deal, and appeared to be griped, for which some cordial medicine was given; but on my visit next day, (the third,) I was informed, that on the previous night it had been seized with a slight convulsive fit, and died almost immediately. Not being able to discover, upon reflection, a sufficient cause of death, even taking into consideration the general feebleness of the constitution, I requested permission to examine the body, which was readily granted, and the result was, the discovery of the following singular malformation. Having submitted the preparation to the inspection of Professor Owen: he has favoured me with the following excellent description, which I beg to quote entire:—

“The exterior form deviates little from that of the normal foetal heart at birth, but it is rather smaller; the two auricles are indicated by their appendages curving forward towards each other from each side of the base of the heart, and divided by the great arterial trunk answering to the pulmonary artery, but of which the part answering to the ductus arteriosus is continued not only into the descending aorta, but into the ascending portion, giving off the innominate and left subclavian artery. A small vessel like a descending branch from the lower part of the subclavian retrogrades to the interspace of the base of the great arterial trunk, and the right auricle, and appears to furnish, near these, the coronary branches. The appendage of the left auricle is more slender than usual; the shorter and thicker apex of the right auricle has the ordinary size and form. The inner sur-

face of the right auricle shows no prominence between the openings of the superior and inferior venæ cavæ; there is no valve at the orifice of the latter; the Eustachian valve is represented by a very slight ridge. The fossa ovalis covered by a large semi-membranous, semi-muscular valve, with a round orifice at its upper part, leads obliquely into the left auricle. A small fossa at the base of the left auricle, below the entry of the two pulmonary veins, leads into the substance of the thick walls of the single ventricle, but not into its cavity; this is the only indication of a proper auriculo-ventricular aperture; all the blood must have passed directly into the right auricle. The upper part of the common ventricle is crossed obliquely from before, backwards, by a thick muscular arch, arising by several short, fleshy columns, from the fore part of the ventricle, and terminating similarly at its back part. The single arterial trunk arises behind this muscular arch; its orifice is provided with three well developed semilunar valves. The base of the tricuspid valve extends around three-fourths of the right auriculo-ventricular aperture, being wanting on the extreme right side, a large and long membranous valve extends downwards, to be attached to two carneæ columnæ, arising from the apex of the ventricle, forming an incomplete membranous partition, of a semi-cylindrical form, the convexity turning towards the arterial orifice, and separated from it by the muscular arch. The oblique oval outlet of the semi-cylindrical valve opens into the left side of the ventricle, and the blood has then moved along the outside of the cylinder, passing through the large oval aperture, or free space left between its convex side and the anterior wall of the ventricle into the right side of the ventricle from which the great artery takes its origin. Some blood would, however, pass directly from the left half of the cylinder into the right side of the ventricle by a few holes pierced at its lower part, where it becomes attached to the apex of the ventricle, and where it is reduced to a thin lace-work. The pulmonary arteries rise separately from the back part of the common trunk, about three lines above the semilunar valves. The short trunk of the innominata gives off both carotids, as well as the right subclavian, and also a smaller artery, which descends to the interspace of the great arterial trunk and the right auricle, apparently a rudiment of the base of the ascending aorta furnishing the coronary arteries. (Mercury injected into this permeates the coronary branches, and reappears in streams from the cut wall of the ventricle.)

“From the foregoing details it will be seen that the development of the heart has been arrested at a stage corresponding to that of the hearts of serpents, lizards, and turtles—viz., a special auricular cavity for the reception of the blood from the lungs, and another for that from the general system; but both kinds afterwards mixed, and distributed in that state at once to the lungs, and to the general system; but the mode or mechanism by which the pulmonic or systemic venous currents are blended is different from that in those reptiles, the mixture taking place in the right auricle and not in the ventricle. It is more analogous, therefore, to the condition of the

auricle in the *Proteus*, according to Rusconi, only that the distinction of the auricles is neither so well marked, externally nor internally, as in this perenni-branchiate batrachian, the partition not being developed. The origin of the pulmonic arteries from a common aortic trunk is also a character peculiar to the batrachian, or lowest reptiles. But the peculiar features of the human fœtal heart, as shown by the single superior cava and the inferior cava; the proportions and shape of the right auricle; the mode of origin of the pulmonic branches and arteries to the head and arms are well marked; and the whole shows an arrested, and, as in the case of the large tricuspid valve, a slightly modified condition of an organ more closely answering to the true human fœtal character of such organ than of that in any of the lower animals which it may resemble in its physiological condition."

I have only, in conclusion, to add, that I have since delivered the mother of a fine healthy boy, which is now living and doing well, and that the father is a stout, healthy little man, so that it is almost impossible to assign a satisfactory reason for such a strange arrest of development.—*London Lancet*.

PATHOLOGY AND PRACTICE OF MEDICINE.

On Gout and Phthisis.—At the Westminster Medical Society, November 18, 1848, Dr. Garrod read a paper on the simultaneous progress of cases of gout and phthisis. He was induced to bring this subject before the notice of the Society, as in a paper on phthisis, communicated during the last session, it was asserted that a gouty condition of the system or blood was inimical to the development of tubercular disease, and it was suggested that, for the purpose of preventing or curing the latter affection, an attempt should be made to produce a gouty diathesis; and even the internal administration of urate of soda was hinted at. Dr. Garrod first spoke of some recent researches he had made on the subject of gout, which will appear in the volume of the Transactions of the Royal Medico-Chirurgical Society now in the course of publication, and described what he considered to constitute a gouty condition of blood, alluding to the presence of an excess of uric acid, before and during the paroxysm, in acute gout, and as an almost constant accompaniment in those forms of the disease where tophaceous or chalk-like deposits take place in different parts of the body. Dr. Garrod then stated, that if the gouty and tubercular diathesis were antagonistic, phthisis would never become developed in the inveterate forms of gout above alluded to. To prove, however, the fallacy of the idea, the following case was related:—A young man, aged twenty-eight, a native of London, whose father and grandmother had suffered from gout, applied for relief at University College Hospital, and was admitted, under the care of Dr. Williams. He was a painter by trade, and for some years he had

been of very intemperate habits, but until the last few, had had plenty of food and clothing. From the age of seventeen, he had suffered from what he termed "rheumatism," (gout?) but had had an affection of the heart with it. Formerly, he was of full habit, but about three years since, began to lose both flesh and colour, although he did not feel particularly ill, and had no cough at the time. He was soon after seized with an attack of gout, both in his feet and hands, tophaceous deposits formed, and he was confined to his bed for twenty-eight weeks. About two months after his recovery, he was again attacked, and then had a severe cough, with expectorations of a greenish hue. The pectoral symptoms continued for about four months, the gouty two months longer. From this date until his admission into the hospital he was constantly suffering from chest affection and gout; hæmoptysis had occurred once, and deposits of urate of soda frequently came way from his joints. When admitted into the hospital, he was pallid and emaciated; complained of pain in various joints arising from gouty inflammation; also of pain in his side, cough, and expectorations of a muco-purulent character. On physical examination, clear evidence was found of the existence of tubercular deposition in both lungs, especially the left, at the apex of which, a distinct cavity was indicated by the production of pectoriloquy and cavernous respiration; during the remaining month of his life, the gouty affection continued to progress, now appearing in one part, now in another, and occasionally with the discharge of urate of soda from some of the joints. The thoracic affection also continued to advance, accompanied with hectic symptoms, increase of cough, and sharp pain in different parts of the chest, until he fell into a state of stupor, and so continued for a day or so, when death took place. The post mortem appearances fully proved the accuracy of the diagnosis. At the apex of the right lung a cavity was found, large enough to contain a walnut, the rest of the lung being studded with scattered tubercles in different stages of development. The apex of the left lung was excavated to the depth of four or five inches, and the remaining portion was sprinkled throughout with grey tubercles. The heart was healthy; the liver had patches of soft tuberculous deposit on its surface; the kidneys were small, and many of the tubuli filled with a white matter, consisting of crystallized urate of soda and uric acid; spleen enlarged. Mucous membrane of the colon ulcerated in patches. An examination of the blood was also made, and it was found to contain a very large amount of uric acid, larger than Dr. Garrod had ever before obtained. Some remarks were then made on other cases, in which gout and phthisis existed together; the rarity of the combination being easily accounted for by the fact, that gout in general does not appear till after the age of forty, whereas, tubercular disease is much more frequent before that period. It also appeared very doubtful to the author whether, granting the correctness of the hypothesis advanced in the paper alluded to, a gouty condition of blood could be induced by the internal administration of urate of soda.—*Lancet*.

MATERIA MEDICA AND THERAPEUTICS.

Does Calomel really Expel the Biliary Secretion?—Dr. MICHEA has published, in *L'Union Médicale*, a very interesting paper on the above question. The author's object was to ascertain, by chemical analysis, whether the green colour which purgative doses of the chloride of mercury give to the alvine dejections (besides rendering the latter more copious and less dense) is really owing to a superabundant secretion of bile. Opinions, says Dr. Michea, are not agreed on this point either in France, Germany, or England. M. Higgins (who published his paper in *L'Union Médicale*) and M. Mialhe consider that calomel really excites the biliary secretion. MM. Trousseau and Pidoux, authors of an esteemed work on materia medica, express their doubts on the point. Actual experiments have been made by Dr. Franz Simon, Dr. Golding Bird, and M. Siebert. The first of these inquirers found, after large doses of calomel, a great quantity of bile and biliverdine; the second discovered only a few traces with a hydrocephalic child taking mercury, and the third maintains that the alvine dejections following the use of this metal present no trace whatsoever of bile. The green stools resulting from the use of the Carlsbad and Marienbad waters are, on the other hand, denied by M. Kerstin, of Freiberg, to contain any trace of bile, and that physician thinks the colour to be due to green sulphuret of iron, by the reduction, in the stomach and intestines, of the sulphate of soda contained in mineral waters, into a sulphuret, which subsequently combines with the iron likewise to be found in these waters. This theory is founded upon the fact, that hydrochloric acid removes the green colour of the fæces, and evolves a large amount of sulphuretted hydrogen. Dr. Golding Bird and Professor Schönlein are of opinion that the green colour given to alvine dejections by calomel is due, not to an excess of bile, but to an alteration of the hæmatosine. Startled by these dissimilar statements, Dr. Michea began a series of chemical analyses upon—1, the spontaneous alvine dejections of healthy men; 2, the same substance, of a more or less green colour, from men affected with gastro-intestinal inflammation; 3, the same, resulting from various doses of calomel; and 4, evacuations produced by neutral salts and resinous purgatives. The author prefers for his tests, the strong nitric acid of Dumas to the sulphuric acid and syrup of Pettenkoffer. The spontaneous alvine dejections of six healthy individuals, four adults, and three children, were examined; their filtered solution remained unaltered by nitric acid. The evacuations of three patients affected with gastro-intestinal derangement were examined, and much bile was found in one case only. When the vomiting had subsided, the bile disappeared from the dejections. Calomel given to eight persons, five men and three women, in doses varying from twelve to fifteen grains, produced green stools in four patients only. These being analysed, it was found that they contained a superabundance of bile, and that, with nitric acid, two principles of that secretion might be made manifest,—viz., biliverdine and

albumen. The evacuations of two of these subjects gave, not a pure green by nitric acid, as this reagent will generally produce on biliverdine, but a dirty olive, (on this Dr. Michea grounds his belief, that he found bile, and not biliverdine alone;) this olive colour, however, assumed the same successive shades of purple, red, and yellow, which biliverdine will yield. In the two other instances, the nitric acid gave a drab or yellowish-red colour, almost without any subsequent shades. The author puts the question, whether this might not have been the bilifulvine of Mülder. The evacuations of five persons who took neutral salts and resinous purgatives were never green, and exhibited no albumen on the addition of either by nitric acid or heat, whereas the albumen, as shown by a plentiful precipitate, was abundant with the four patients using calomel. This albumen was, according to Dr. Michea, furnished by the bile. These experiments would, then, tend to elucidate the practice,—First of English physicians, who regard calomel as a specific in liver affections; secondly, of Dr. Schönlein, in typhus, who looks for green evacuations by fifteen-grain doses of the chloride of mercury; and thirdly, of Russian practitioners, who consider calomel the most efficient agent against cholera. Modern organic chemists look upon bile as partly of an excrementitious nature, and that the liver as well as the lungs removes from venous blood substances which have become unfit for assimilation, (the resin and fat to be found in the bile containing much carbon and hydrogen.) The more plentiful, therefore, the secretion of bile, the purer the blood. Thus it becomes clear how calomel may act beneficially in miasmatic contaminations, in typhus and cholera. We subjoin Dr. Michea's conclusions:—

1. Calomel acts in a special and direct manner on the liver: this salt occasions alvine evacuations of a peculiar colour, due to an excess of actual bile, as shown by the action of nitric acid, which points to the presence of its colouring matter (biliverdine) by change of colouration, and of its albumen by precipitating the latter.

2. This influence of calomel upon the biliary secretion is not constant. It varies according to certain conditions and circumstances.

3. The green evacuations produced by calomel are more frequent with men than women. (This the author supposes to be owing to the greater quantity of alkaline chlorides generated in the stomachs of men, which chlorides, according to Mialhe, would contribute to transform the chloride of mercury into a bichloride.)

4. These evacuations have a peculiar consistence—viz., a viscous liquidity, somewhat like oil, or white of eggs beaten up together.

5. In some affections of the intestinal canal, an excess of bile, to be detected by reagents, may be found in the evacuations.

6. Spontaneous alvine evacuations in healthy people are quite free from an excess of bile.

7. Neutral salts and resinous purgatives exercise no direct or special influence on the liver. The alvine dejections which they produce contain no excess of bile, remaining unaltered by nitric acid or heat.—*London Lancet.*

S U R G E R Y.

Fistulous openings in the Perineum. By BRANSBY B. COOPER, F. R. S. Surgeon, and Lecturer on Surgery at Guy's Hospital.—Retention of urine, whether arising from permanent stricture, the presence of calculus, or, indeed, from any cause which prevents the flow of the urine, may be spontaneously relieved by ulceration of the urethra behind the cause of obstruction, from which extravasation of urine, and subsequently abscesses, must necessarily result, and fistulous openings being established, the patient is relieved by the flow of urine through them. Such a condition must not, however, be allowed to remain; and it is quite clear that the fistula cannot be cured without the stricture being divided so as to restore the natural canal for the passage of the urine. Puncture of the bladder in such cases would, in my opinion, be quite ineffective in relieving the patient, and the cure can only be produced by dividing the stricture, in perineo, as I have already described, and by freely laying open all the sinuses, however numerous they may be. A gentleman, from Barbadoes, came under my care, who had not only been the subject of stricture for several years, but had also fistulous openings into the perineum, scrotum, and even into the rectum. In this case I first divided the stricture in perineo, and passed a large catheter into the bladder; I then laid open all the sinuses, and divided the sphincter ani muscle: in three months the patient was perfectly cured.

Abscesses in the perineum sometimes result from stricture, even when the obstruction is not sufficient to produce actual retention of urine. These abscesses occur from the dilatation of the urethra behind the stricture, leading to ulceration of its structures, and consequent infiltration of urine: in such cases swelling in the perineum soon results, and rigours supervene, indicating the formation of pus: a free opening into the perineum should be immediately made, and the catheter passed, if practicable, along the natural passage of the urethra into the bladder: should you not be able to effect this at the time, repeated gentle efforts must be made to restore the normal continuity of the canal. Such ulceration of the urethra may, however, occur, as I have already said, without being produced by an impermeable stricture, so that it frequently happens, in such cases, that the catheter passes readily into the bladder without meeting any insuperable obstruction; but this should never be attempted until the abscess be opened, as the accumulated matter itself might cause considerable impediment to the passage of the instrument. The following case affords an example of this fact:—I was sent for to see a patient who was suffering from retention of urine, of which the symptoms were so urgent that I immediately attempted to pass a catheter; not succeeding, however, in relieving the patient, I proceeded to examine the perineum, where I discovered a tumour of considerable size: in this I made an incision, and a quantity of pus and urine were immediately evacuated. As

the patient stated that he had been the subject of stricture for many years, I considered it better to open at once the membranous part of the urethra; I therefore passed a female catheter into the bladder, and, drawing off the urine, relieved the patient from the symptoms arising from the retention; I next passed a male catheter along the natural passage of the urethra, as a preliminary to the division of the stricture; to my great surprise, the instrument readily passed on, and when the female catheter was withdrawn, at once entered the bladder: this circumstance showed that if I had attempted to pass the male catheter before I divided the membranous portion of the urethra, I should have found the more formidable part of the operation to be altogether unnecessary. The experience I derived from this case has since often prevented me from cutting into the membranous part of the urethra, after opening an abscess in perineo, without first attempting to pass the male catheter along the natural course of the urethra: such a precaution is, indeed, rendered doubly necessary by the fact that abscesses in the perineum may result from external injury, without any other implication of the urethra on the canal than that arising from the mere pressure of accumulated matter, the evacuation of which immediately relieves the symptoms.

Diseases of the prostate gland.—It is somewhat difficult to decide whether the prostate gland is most important as a urinary or as a generative organ; as its diseases interfere, however, with the performance of both these functions, it may rationally be viewed in relation to either of them. The prostate gland is composed of numerous follicles connected by a dense cellular membrane; but it is not furnished with a distinct capsule, which circumstance probably accounts, at least in some measure, for its tendency to undergo sudden enlargement. The excretory ducts of the prostate gland, which are from fifteen to twenty in number, terminate in the prostatic portion of the urethra, by the sides of the verumontanum; and if the urethra be laid open at this part, the secretions may be seen to exude when the gland is subjected to pressure. The natural form of the prostate gland is that of a chestnut, divided by a raphe or longitudinal fissure into two lateral lobes. The fissure is much more defined on the inferior than on the superior surface; at the posterior and inferior part of the gland there exists a small process, which connects the lateral lobes, and which is sometimes termed the third lobe of the prostate. The prostate gland is remarkable for its liability to undergo enlargement at advanced periods of life; and this complaint is, indeed, very common and scarcely to be looked upon in the light of a disease. The effects of enlargement of the prostate are, however, very important, as it produces an impediment to the passage of the urine, and is by far the most frequent cause of retention of urine in old age. The urethra traverses the prostate gland, but not exactly through its centre, being nearer to the upper than to the under surface; this is termed the prostatic portion of the urethra, and in it the ducts of the vesiculæ seminales and vasa deferentia have their terminations. The urethra, where it passes through the prostate, is subject to a dis-

ease which cannot, however, be regarded as an affection of the gland itself; the symptoms of the complaint are—pain at the neck of the bladder, aggravated during micturition, and a degree of difficulty in passing the urine, which sometimes leads to a suspicion of the presence of stricture. If the supposed obstruction be sought for by the bougie, intense pain is experienced as the instrument enters the prostate, and the patient complains of a great aggravation of the symptoms “in coitu:” the latter peculiarity forms the principle diagnostic mark of the disease, which consists in a morbid sensibility of the extremity of the vasa deferentia where they enter the urethra. This affection is produced by enlargement of the extremities of the vasa deferentia, which throw out papillæ-like projections that are extremely sensitive, and form obstructions to the passage of the urine and serum. The caustic bougie is the best remedy for this complaint, to which I believe Lallemand was the first to direct the attention of surgeons. I have two or three times seen it, and recognized it from its seat being in the prostatic portion of the urethra (a part very seldom the subject of stricture,) and from the pain in coition, and during the passage of the urine, as well as from the sympathetic tenderness of the testicle itself. The application of caustic proved sufficient to effect a cure in all these cases. The prostate gland is liable to inflammation, which is very often induced by the extension of gonorrhœal inflammation; it is indicated by a sense of pain in the perineum, extending into the region of the rectum, the pain being greatly aggravated while the patient is in the sitting posture. The bladder becomes affected, if immediate relief be not afforded to the inflamed gland, and even retention of urine often supervenes. The treatment consists in the application of leeches to the perineum, cupping in the loins, keeping the patient in the recumbent posture, suppositories, the use of diluents, and the removal of accumulated feces from the large intestines. If such means be employed, the attack generally yields at once; but if they be not sufficiently active, the inflammation may acquire a chronic form, which it will be found extremely difficult to overcome, and which, indeed, frequently leads to abscess and very protracted suffering.

Abscess in the prostate gland.—When an abscess has formed in the prostate, the pain becomes completely changed in its character, being then rather an obtuse throbbing sensation, which is much aggravated during the act of defecation; rigors also supervene, and sometimes the shivering fit is so distinctly intermittent, that the affection is liable to be mistaken for ague. The difficulty in passing the urine is also increased by the formation of matter, and an examination of the prostate gland should now be made per rectum; when it is said fluctuation may sometimes be discovered: I must, however, acknowledge that I could never detect it by this method of investigation. In abscess of the prostate, the catheter must be employed, notwithstanding the pain which its introduction produces, and although an obstruction is felt in passing the instrument through the prostate: the resistance is not similar to that of stricture; moreover, as stricture never occurs at this part, the diagnosis of prostatic abscess becomes comparatively easy. There is another

point worthy observation ; in abscess, the obstruction returns immediately after the removal of the catheter or bougie, to the same extent as before its introduction : this is not the case with stricture of the urethra, Should the duration of the symptoms be greatly protracted, and the constitution of the patient deteriorated by continued suffering, the abscess should be opened by making a deep incision into the perineum, and then passing a bistoury into the gland to evacuate the matter. In this operation, the urethra should be carefully avoided, so that the matter may pass off by the factitious opening alone. Abscesses in the prostate sometimes burst spontaneously, either into the urethra or rectum, and this is generally indicated, in the case of the former, by the urine being mixed with pus, and by the immediate relief from pain : but when the tumor bursts into the rectum the only probable sign of the evacuation of the matter would be the complete cessation of all suffering. The opening between the urethra and prostate, formed by the bursting of an abscess, is frequently very difficult to cure, owing to the urine filtering in the prostate, and keeping up a constant irritation : this difficulty may, however, be overcome by the gentle introduction of a catheter, to draw off the water for a few days,—until, indeed, the abscess has granulated. Should there be much difficulty in healing an opening between the rectum and the prostate, owing to the intrusion of the feculent matter into the gland, the division of the sphincter ani seems to be the best means of affecting the cure of the fistula. Sir Benjamin Brodie has recorded some cases of abscess in the prostate gland in children, which occurred in his own practice. I have never met with a case myself, and consider it rather a disease of the adult, than one either of youth or old age.

Ulceration of the prostate gland.—This sometimes results from the inflammation, but much more frequently, I believe, from the presence of calculi in the prostate: it is attended by the most excruciating pain, and by occasional bleeding. Caustic is the best remedy for this disease, and may be passed down by a catheter converted into a “port caustique ;” in two or three instances in which I have known it to be used, it has been productive of the most beneficial effect.

Calculi in the prostate.—This disease is not very uncommon, but frequently remains unsuspected until a small calculus ulcerates into the urethra, causing retention of urine : sometimes, however, premonitory symptoms present themselves, resembling those already described as attendant upon inflammation of the gland. Some time ago I was sent for to visit a gentleman in Westbourne Terrace, who had been suddenly seized with retention of urine ; he told me that he suspected the presence of a stone, as a few days before he had passed a small one during micturition. On introducing a catheter into the urethra. I met with an obstruction, just anterior to the bulb, and I did not attempt to overcome it, on account of the danger of pushing the calculus back into the bladder if it should prove to be one. The symptoms of retention not being very urgent, I ordered a hot bath and a large dose of opium, and four hours after he passed a calculus weighing five grains : it proved,

upon analysis, to consist chiefly of phosphate of lime. The formation of stone in the prostate is not, however, always attended by so little inconvenience; the most acute suffering I ever witnessed, and which indeed led ultimately to the death of the patient, was in a case of this kind. The patient was under the care of Sir Astley Cooper, who attempted to remove the calculi from the prostate by means of the scoop, having cut down upon the gland, as in the operation for stone; but as the calculi were contained within the follicles of the gland, so as to be somewhat sacculated, it was impossible to remove them all, and the suffering of the patient remained unrelieved; indeed, his constitution and mind both at length became so worn by the continual agony, that he put an end to his existence.

Enlargement of the prostate in old age.—This can scarcely be regarded as a disease, but appears to be the result of a change inseparable from old age. It certainly sometimes attacks individuals at comparatively early life, but such persons always manifest unequivocal signs of premature decrepitude. The enlargement seems to be true hypertrophy, as it is rarely attended by any alteration of texture, although I have in some few cases found the gland softer, and in others harder, than natural. The symptoms in enlargement of the prostate gland depend with respect to their urgency upon the size it has acquired; they are, sense of weight in the perineum, intolerance of pressure from the hardness of a seat; difficulty in passing the urine, and also in voiding the fæces, which will be found flattened by the encroachment of the hypertrophied gland on the rectum. At this stage of the complaint, retention of urine occasionally supervenes, rendering the introduction of a catheter necessary. This operation should be performed with the utmost gentleness, as the slightest flow of blood would cause decomposition of the urine, and consequent aggravation of all the symptoms. An elastic gum catheter should always be used for drawing off the water, and, if possible, it should be introduced without a stilette; leeches should be applied to the perineum; the rectum emptied by means of enemata; and suppositories, recumbent position, and soothing remedies, employed. I have also found colchicum of great use in such cases, and believe that its beneficial influence arises from the circumstance that this disease frequently attacks subjects of a gouty diathesis. I usually prescribe the colchicum in the following form:—R. Ext. Colchici Acet. gr. j.; Pil. Hydrarg. gr. j.; Pulv. Doveri. gr. v.; Ext. Colocynth. Co. gr. iij. M. Ft. pil. bis quotidie sumenda.

As the complaint takes its origin from a particular epoch of life, nothing more than relief of the symptoms can be expected; but nevertheless, by a judicious system of diet, by keeping the patient from excess of bodily exertion, and from vicissitudes of temperature, his life, which was scarcely supportable under the violent symptoms of the disease, is rendered comparatively free from pain and inconvenience.

It does not always happen that the whole of the prostate gland becomes hypertrophied in old age: but very frequently the third lobe only is affected, or perhaps it may more properly be said that a new

development arises; for in a state of health, at the adult period, the third lobe is scarcely perceptible. When this third lobe enlarges, it presses the inferior region of the bladder or "trigone" upwards above the commencement of the urethra in the bladder, preventing the evacuation of the urine, and consequently producing retention. Nor is this the only inconvenience; for by the raising of the bladder immediately behind the prostate, a kind of reservoir is established below the entrance of the urethra; and, in the effort to empty the bladder, a portion of its contents is always left: this becomes specifically heavier than the newly-secreted urine, which does not intermix with it; and, after a time, the retained urine undergoes decomposition, which gives rise to very urgent symptoms—such as frequent desire to make water, tenesmus, deep-seated pain in the perineum, and liability to positive retention. It is quite clear that these symptoms cannot be removed while the exciting cause remains; the fœtid urine must therefore be immediately drawn off by means of the catheter. In such cases there is, however, a difficulty in passing the instrument, as the enlarged lobe offers some degree of obstruction to its passage, and this is only to be overcome by employing a longer and larger catheter than that usually made use of: this instrument is generally termed the prostatic catheter. The mode of introducing the catheter in such cases is similar to that in ordinary practice, until it arrives at the point of obstruction, when the penis and instrument are both to be drawn forwards for the purpose of straightening the urethra; the handle of the catheter is then to be considerably depressed, so as to tilt up the point, and it is then pressed onwards into the bladder. But, having effected this, the urine would only be drawn off to the level of the urethra, and the heavier fluid would still remain, unless further means were employed for its removal. The cleansing of the bladder may be effected by injecting it with tepid water, by means of a syringe; and an improved instrument has been invented for this purpose, by which a continuous current is kept, the same stroke of the piston removing one quantity, and supplying a fresh one. Constitutional remedies must not be neglected; and, when an alkaline state of the urine exists, medicines of an acid character are generally indicated. Among the most efficacious of these will be found the following:—℞ Nitro-Hydrochlor. Acid. gtt. iij.; Syr-Papav. ℥iij.; Inf. Colomb. ℥iss. M. Ft. haustus ter quotidie sumendus. In addition to this, an opiate suppository at bed time will often be found of great advantage; but if an acid condition of the urine be not thus restored, Liq. Potassæ will frequently be found capable of re-establishing the normal acid state: this anomaly has been accounted for by Dr. G. O. Rees, on the supposition that the alkali renders the secreted urine less irritating to the mucous membrane of the bladder, and preventing the secretion of alkaline mucus, from which the urine had acquired its abundant preponderance of alkali.—*London Medical Gazette.*

OBSTETRICS.

Uterine Hydatids.—At the Pathological Society of London, Dr. RAMSBOTHAM exhibited a specimen of the, so-called, Uterine Hydatids, about a pint in quantity, that had been expelled under his superintendence the previous evening. The patient, 28 years old, had been married twice: to her first husband only ten months; to her second two years; and had never either borne a child or aborted. The catamenial discharge was perfectly regular till the July period, when twelve days beyond the usual time passed without any appearance showing itself. There then came on, however, a slight sanguineous weeping from the uterus, which continued almost without intermission, though to a very trifling extent. As the abdomen was evidently getting larger, Dr. R. was consulted, on October 27th, to determine whether she was pregnant. He found the discharge still going on, and the uterus as large as one between four and five months gravid. On examination per vaginam the cervix was felt to be considerably developed, and the os uteri gave to the finger the characteristics of pregnancy. His opinion was that the uterus contained something, probably an ovum, whether living or dead could not be ascertained, and that probably she would abort within a short time; she was directed to keep her bed. He heard nothing more of her till last night, the 19th, when he was summoned hastily, and found the mass expelled: she had had periodical uterine pains for three or four hours, and had suffered some hæmorrhage, but not enough to effect the system sensibly. The uterus had subsided almost entirely within the pelvic cavity, and was quite empty. The bleeding had nearly ceased, and she was in no pain.

Dr. R. remarked that it was a doubt still with some physiologists whether these bodies were true hydatids or not; he considered they were not so, because the cysts contained nothing like the *echinococci*. He looked upon them as being merely a diseased, dilated, or preternaturally developed, condition of the villi of the chorion; because, under the microscope, their terminal vessels are seen to have exactly the same arrangement as the vessels of those villi possess, and which are delineated faithfully by Wagner and Weber. He never saw them expelled from a virgin uterus, though many cases had come under his notice, and believed them the result of impregnation. This fact, however, would certainly appear to be rendered somewhat doubtful by two cases recorded, fourteen or fifteen years ago, by Dr. Andrew, in the Glasgow Medical Journal, where some were voided by unmarried girls of good character; in one of which subjects there was present, according to Dr. Andrew, a perfect hymen.

Dr. Ramsbotham also presented an organized mass, of the size of a small orange, which was attached to the umbilical cord of a fine-grown infant (born about a month ago,) close to its origin from the placenta, by a pedicle of about half an inch in length. It was covered by perfectly formed cutis and cuticle, was made up of cellular substance with fat, and of gelatinous matter contained in small cells, and at one part near the surface there was a quantity of half formed bones; it floated in the liquor amnii surrounding the live child, was fed by its vessels, and was evidently an abortive attempt at the formation of a second fœtus.—*Ibid.*